MAY 5 1933

The OIL and GAS JOURNAL

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TULSA, OKLAHOMA

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Our hat is off to YOU!

Ed McAdams and one of the crews. Pardon our self-satisfied looks, but we've just broken all records for deep holes! We want to share the honors with J. J. Campbell, Supt., and the other crews.

CONGRATULATIONS to Ed McAdams, L. L. Jackson, and their deep-drilling crews! Records don't just happen—drilling an oil well 10,688 feet deep is proof of the knowledge, resourcefulness and care not only of the officials but of every man on the rig!

Every successful operator admits that *good* equipment *helps*—that *safe* equipment is *important*—that the *best* equipment is always *cheapest* in the long run—but we all know that *good* men to operate such equipment are *vital!*

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...that 11¾" casing was set with a Baker Cement Float Shoe at 6710 feet—

...that 7" casing was set with a Baker Float Collar and a Baker Cement Float Shoe at 9642 feet.

And we are proud of the fact that there was not the slightest trouble in landing, cementing, and in drilling out—and proud that we had the opportunity to again prove that "You are Safe with Baker".

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Wild Orgy in East Texas Brings Inevitable Cut; Voluntary Curtailment Elsewhere Suggested

By ANDREW M. ROWLEY

PRODUCTION of more than one and one-quarter million barrels of crude oil daily in Texas last week brought the inevitable result on Tuesday of this week when posted prices throughout the state were reduced nearly 50 per cent. It is to be regretted very deeply that producers in all fields outside East Texas must be penalized for the tragic conditions existing in East Texas but buyers of crude oil certainly cannot be expected to pay from 45 to 50 cents a barrel for production in other fields when about 1,000,000 barrels of oil daily is being moved to markets from East Texas at prices of 10 cents or less per barrel.

The petroleum industry throughout the nation is paying a terrific price for political inefficiency while the State of Texas and oil men in that state are losing millions of dollars as a result of the senseless allowable given East Texas and the utter failure to enforce even a semblance of proration in that area. Our reports show that for the 24 hours ending at 7 a. m., May 1, production in East Texas was close to 1,100,000 barrels.

Blatant statements trying to justify the excessive production officially allowed in East Texas are not worthy of consideration by any person of ordinary intelligence. There is only one answer to such statements and to such allowables and that answer was given by the Humble Oil & Refining Company on Tuesday. Mr. Farish covered the whole situation in one sentence when he said: "The excessive production of oil in East Texas and the low prices at which it is moving to market make it impossible for us to buy and sell oil produced in other fields on the basis of our present posted prices."

The oil industry ultimately will benefit greatly if East Texas continues to run wild, unfortunate as this may be for many law abiding operators there. Operators in other fields would show keen business judgment were they to curtail their output to a minimum and let the head blow off in East Texas. They then would still have their oil and when the flush is off in East Texas, which it soon will be under present conditions, crude oil prices certainly will bound upward.

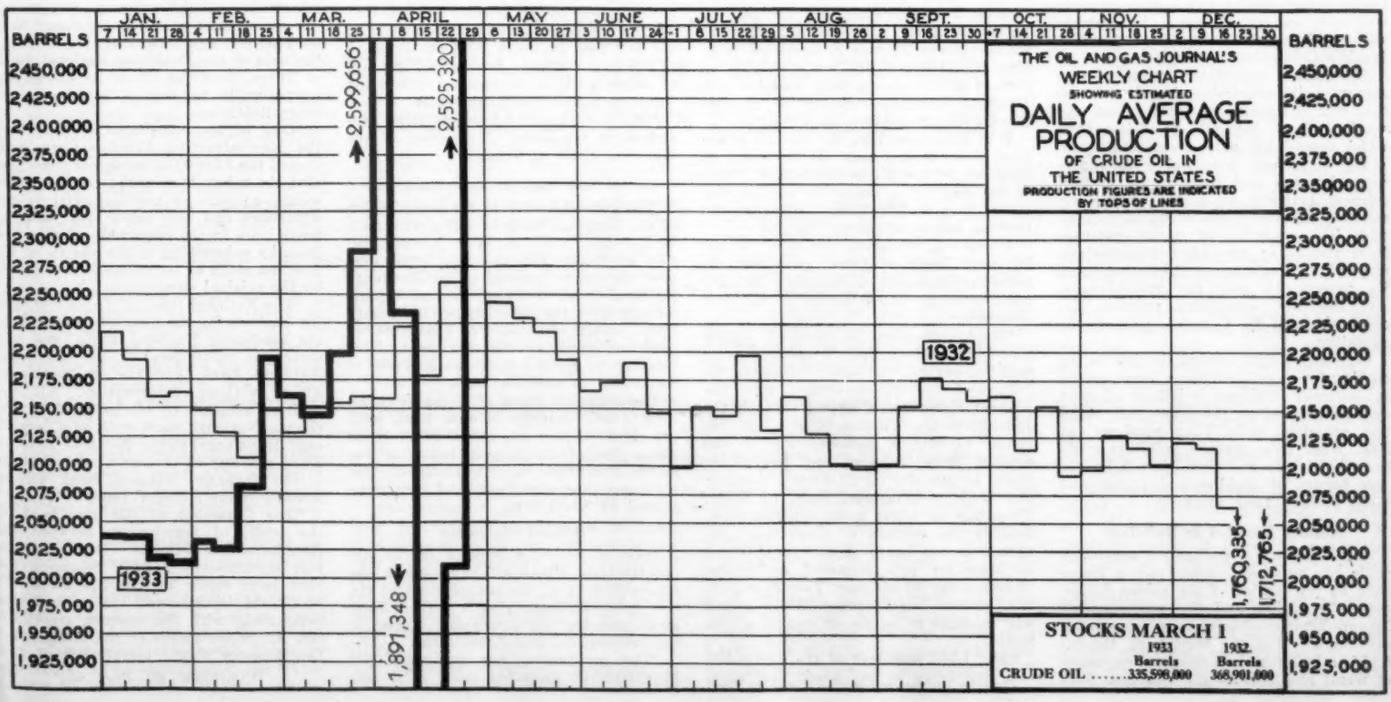
A voluntary, drastic curtailment of production in all fields in the Mid-Continent area, outside of East Texas, naturally would work a hardship on operators in these fields for the time being but they certainly would be repaid one hundred fold in increased revenues just as soon as East Texas started to slip. And there is absolutely no doubt East Texas will slip soon if conditions there remain as at present.

Crude Oil Production in the United States

Estimated daily average production for the week ending April 29, and a comparison with previous week and one year ago, follows:

	Apr. 29	Apr. 22	Apr. 30, 1932
Oklahoma—			
Oklahoma City	120,985	101,035	88,335
Seminole-St. Louis	100,915	105,610	104,750
Remainder of State	198,325	198,270	205,630
Total Oklahoma	420,225	404,915	398,715
East Texas—			
Lathrop	279,975	80,015	124,717
Kilgore	198,025	53,720	103,755
Joiner	211,680	57,925	106,422
Total East Texas	689,680	191,660	334,894
West Texas	157,862	159,747	180,636
North Central Texas	75,247	75,455	72,590
Texas Panhandle	48,335	43,805	50,455
East Central Texas	58,410	58,238	56,341
Gulf Coast—Texas	151,315	153,161	105,315
Southwest Texas	52,612	51,893	57,328
Total State of Texas	1,233,461	733,959	857,559
Kansas	115,840	115,360	94,635
North Louisiana	28,120	29,880	30,040
Gulf Coast—Louisiana	41,944	42,191	34,395
Arkansas	30,410	30,210	34,940
Eastern Fields	105,000	106,000	120,000
Rocky Mountain area	73,820	72,498	85,848
California—			
Santa Fe Springs	54,250	54,500	66,000
Long Beach	71,000	70,000	82,250
Playa Del Rey	12,000	12,150	18,000
Elwood	13,000	12,500	16,250
Kettleman Hills	61,750	62,500	62,250
Remainder of State	264,500	268,100	270,750
Total California	476,500	479,750	515,500
Total United States	2,525,320	2,014,763	2,171,632

Increase 510,557 bbls. daily.



World's Fair Is Ready With Unusual Exhibits as Nation Plans Motorized Trek to Big Show

By WIRT FRANKLIN
President of Independent Petroleum Association of America

The world is preparing to move en masse on Chicago; and the big city by the lake awaits it.

The last touches are being put on "A Century of Progress Exposition" and the civic "welcome sign" has been painted.

City and world's fair officials plan to handle upwards of 25,000,000 visitors during the five months from June 1, when the fair will open, until November 1, when it will close. The number equals one-fifth of the population of the nation.

These visitors will come by railroad train, by airplane, motor bus and by private automobiles—provided motorists are made to realize that Chicago awaits them with ultramodern tourist camps and is prepared to handle the huge influx of traffic.

The petroleum industry, standing to profit materially from any such mass movement of automobiles, will find it decidedly to its advantage to help insure a concerted motorized trek to Chicago this summer. Leaders in the industry are now working out a plan of promotion.

Big Show an Actuality

Skeptics throughout the land would be shocked if they viewed the fair as it stands today. There are no "ifs" nor "buts" about it—the fair exists today with only a few minor details and exhibits yet to be completed.

"Bizarre," "fantastic," "amazing," "incredulous" are a few of the adjectives used to describe the giant project. Even the fair site is fantastic—five years ago it was under 20 feet of Lake Michigan water.

Giant sand suckers went miles out from shore, dropped their pipes, and drew the lake bottom into their holds, later to be pumped out near shore to form a park 7 miles long and half a mile wide.

Modern life supplies the motif for the exposition. Its bizarre architecture bespeaks the future. Its planes and blending of perpendicular and horizontal lines epitomize an era of speed, in contrast with the intricate ornateness of the 1893 World's Columbian Exposition.

However, a $20,000,000 group of permanent buildings, Chicago's cultural center, will dominate the scene from the north end of the 80-acre fairgrounds which extend 3½ miles north and south.

The huge and beautiful Field's museum, housing vast treasures of natural science, gathered from the remote recesses of the world; the Shedd acquarium, with its population of queer creatures from the deep; the Adler planetarium, displaying in miniature the heavens and its movement; and the world-famous Art Institute, containing priceless art treasures, will be a major part of the exposition.

Chicagoans have viewed the fair in the making for more than three years, seeing fantastically designed buildings of steel arise where before there was only sand and grassless park. They pondered, at first, what these strange buildings could possibly signify and then, struck by the new beauty of architectural planes and lines, grasped their meaning.

Millions Invested in Buildings

Many millions of dollars are represented in the buildings alone. Only a few—such as the replica of the golden Llama temple of Jehol and the reconstructed Mayan Temple—depart from tomorrow's architecture. For the most part, the exhibition buildings are windowless, made of metal and hold to the long low lines which fair architects predict for the future. Science ventilates them and science lights them.

Chicago literally will have the world of science at its front doorstep with the formal opening of the exposition June 1. "A Century of Progress" will be depicted, not by lifeless and motionless exhibits, but by vibrant, actual processes. Practically all the wonders of science and human skill will be shown either life-size, or, where such is impractical, in miniature.

General Motors Corp., for instance, will build complete automobiles in full view of the visitors at its $1,000,000 building. The Firestone Tire & Rubber Co. will build tires from the raw rubber to the finished product.

The petroleum industry itself will play a major role in this vast drama of science. Miniature oil wells will show how crude petroleum is drawn from the earth and the myriad manufacturing processes it must undergo.

The most graphic description of the scope of the exposition, perhaps, can be drawn by merely mentioning a list of some of the sciences to be portrayed. They include: Agriculture and its development; coal, coke and petroleum; iron and steel; railroads; street transportation; automobiles; aviation; machinery and power; electric light and power; telegraphy; telephone; radio and television; motion pictures; Indian cultures in America; medicine and its progress; religion; the social sciences; home and industrial arts; mathematics and kindred sciences.

In addition to all this, dozens of foreign nations will bring their treasures for display. Whistler's famous picture, "My Mother"; Leonardo da Vinci's "Mona Lisa," and scores of other world-famous works of art will be sent. So highly are they valued that a special police force has been organized solely to safeguard them.

The sponsors of the exposition have followed every avenue to insure a fully rounded world's fair. While the purely scientific, interpreted so that even a child may understand, will predominate, the cultural and historic phases will not be neglected. The Mayan and Llama Temples are two examples. A full size reproduction of old Fort Dearborn, the mother of Chicago, has been constructed of logs so that it appears exactly as it did when Chicago was little less than a mud flat 100 years ago. Likewise, the Wigwam, where Abraham Lincoln was first nominated for the presidency, has been reconstructed and is the center of a group of buildings commemorating Illinois' most illustrious son.

So far as amusements are concerned, they are found on every hand. The old-time Ferris wheel that was such a wonder at the Columbia exposition 40 years ago, has given way to the sky-ride, a car suspended from a cable and running at tremendous speed between two steel towers 2,000 feet apart and more than 600 feet high. The latest ideals in scenic railways and roller coasters and every other conceivable riding device have been prepared, stressing speed, ever more speed.

Children will have their own fairground, where giant effigies of storybook characters will dominate the scene and where the little ones can play to their heart's content, safely guarded by watchful matrons and attendants, while their parents view the fair proper.

"A Century of Progress" is ready to open as the greatest educational spectacle of all time. Its success is assured and Chicago is awaiting its influx of visitors with a spirit of complete hospitality.

National Bank of Tulsa Has Powerful Capital Backing and a Strengthened Directorate

Four prominent Tulsans, three of them widely known in the oil business, have been added to the directorate of the National Bank of Tulsa, the successor to the Exchange National Bank. The new directors are Clarence H. Lieb, president of the Carter Oil Co., a subsidiary of the Standard Oil Co. of New Jersey; Charles J. Wrightsman, for the past 25 years one of the Mid-Continent's leading oil operators; Thomas S. Loffland, president of Loffland Brothers Co., a large firm of drilling contractors; and John H. Dunkin, secretary-treasurer of Brown-Dunkin Co., merchants, in Tulsa.

It is announced that the election of the four above named men to the board of directors of the National Bank of Tulsa is but one of a series of constructive moves to maintain Tulsa's place as the banking center of the oil business.

Elmore F. Higgins, president of the National Bank of Tulsa, gave out the following statement on Saturday, with the announcement of the names of the new directors:

"Rapid progress is certainly being made in building Tulsa's position as a banking center," he said. "Tuesday we witnessed the announcement that the Federal Government, acting through the Reconstruction Finance Corp., had invested $4,000,000, matched with a like amount from Tulsans, and has established in this city an $8,000,000 commercial bank, the National Bank of Tulsa. Yesterday we again made splendid progress by the election of these four gentlemen to our board of directors. Three of them are well grounded in various phases of the oil business. This, of course, is of utmost importance as Tulsa is and will continue to be the oil capital of the world.

"Mr. Lieb, president of the Carter Oil Co., will bring to our board vast experience, both domestic and foreign, in many phases of this varied business. Mr. Wrightsman will give to our councils sound advice based on long and successful experience as an independent producer. In Mr. Loffland our new bank will benefit through his experience in oil production and equipment matters. In the selection of Mr. Dunkin we feel that we have brought to our councils one of the few men in Tulsa who can bring to us the experience so necessary if we are to properly aid in the problem of building Tulsa as a merchandising center.

"We most heartily welcome these gentlemen to the board of directors of the National Bank of Tulsa."

A New and Stronger Bank

The announcement of the organization of the National Bank of Tulsa was made on Tuesday, April 25. With a capitalization of $8,000,000, the new bank took over the entire business of the Exchange National Bank of Tulsa, through a partnership with the Reconstruction Finance Corp., which subscribed to $4,000,000 in preferred stock of the new bank. This was met by private purchase in Tulsa of $4,000,000 in common stock.

The National Bank of Tulsa is to all intents and purposes a new bank with practically liquid resources. It gives to Tulsa one of the largest banks in the entire Southwest in capitalization. The Exchange National Bank had been capitalized at $3,000,000.

Official Statement

Jesse H. Jones, a director in the Reconstruction Finance Corp., made the announcement of the organization of the new bank, accompanying it with a statement covering the important details of the transaction. Mr. Jones said:

"The corporation has subscribed for $4,000,000 of preferred stock in a new national bank, the National Bank of Tulsa, Tulsa, Okla. The subscription of this stock was authorized by the Secretary of Treasury, William H. Woodin, upon proper application by common stockholders, who had subscribed to $4,000,000 of new common capital.

"This new institution, chartered by the comptroller of the currency and to begin functioning as a new national bank on Tuesday, April 25, will take over the business of the Exchange National Bank of Tulsa, acquiring all of its assets and assuming 100 per cent of its deposits and other liabilities.

"One of the conditions under which the Reconstruction Finance Corp. purchased the $4,000,000 preferred stock was that the subscribers to the common stock would, as soon as possible, offer to the depositors and the public the right to participate in the ownership of this new bank by subscribing to the shares of the common stock at the purchase price paid by the original subscribers.

"The National Bank of Tulsa will open for business in the quarters occupied by the Exchange National Bank, and will serve the depositors of the Exchange National Bank, and the community of Tulsa without interruption. All depositors' accounts on the books of the Exchange National Bank will be automatically transferred to the National Bank of Tulsa and any check drawn against funds in the Exchange National Bank will be honored by the National Bank of Tulsa.

"The formation of this new bank is the result of negotiations between the Reconstruction Finance Corp. and the new stockholders. It will represent the first large bank in the Southwest, in which the Government has entered into partnership with the common stockholders. All requirements of the Reconstruction Finance Corp., comptroller of cur-

(Continued on Page 45)

Opposition to Alcohol Blends Grows as Higher Federal Tax Bill Is Introduced in Congress

WASHINGTON, D. C., May 1.—Legislation to increase use of alcohol motor fuel through taxation was proposed today in both branches of Congress.

Authors in the Senate were Senators Clark, Democrat, Missouri, and Dickinson, Republican, Iowa. Representative Shallenberger, Democrat, Nebraska, who introduced the bill in the house, said it would "lead to a consumption upwards of 300,000,000 bushels of corn annually."

Gasoline producers now pay a Federal tax of 1 cent a gallon. The bill would raise the rate to 2 cents till the end of 1934 and 3 cents thereafter, but all blends with alcohol made from domestic farm products would pay only 1 cent a gallon as formerly. Through the remainder of 1933 a 1 per cent admixture would be specified; 2 per cent through 1934 and 5 per cent thereafter. The bill, as introduced, follows:

Text of Alcohol Blend Bill

"A bill to amend the provisions of the Revenue Act of 1932 relating to the tax on gasoline.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that Section 617 of the Revenue Act of 1932 is amended to read as follows:

"Sec. 617. Tax on Gasoline.

"(a) There is hereby imposed on gasoline and blends of gasoline and domestic alcohol, sold by the importer thereof or by the producer, a tax at the following rates:

"For the period commencing July 1, 1933, and ending December 31, 1933, 2 cents a gallon; except that on blends of gasoline with not less than 1 per centum of its volume of domestic alcohol, the rate shall be 1 cent a gallon on the total quantity of the blend;

"For the calendar year 1934, 2 cents a gallon; except that on blends of gasoline with not less than 2 per centum of its volume of domestic alcohol, the rate shall be 1 cent a gallon on the total quantity of the blend;

"And thereafter, 3 cents a gallon; except that on blends of gasoline with not less than 5 per centum of its volume of domestic alcohol, the rate shall be 1 cent a gallon on the total quantity of the blend;

"(b) Under regulations prescribed by the commissioner with the approval of the secretary, the tax imposed by this section shall not apply in the case of sales to a producer.

"(c) As used in this section:

"1. The term 'domestic alcohol' means ethyl alcohol of not less than 199 proof, produced from agricultural commodities grown within the continental United States, or (in the case of domestic alcohol used in blending with gasoline in any territory) grown within any territory or the continental United States; and for the purpose of this section, the volume of domestic alcohol blended with gasoline shall include the volume of any denaturant (other than gasoline) required pursuant to law.

"2. The term 'producer' includes a producer, refiner, compounder, or blender of gasoline, and a dealer selling gasoline exclusively to producers of gasoline, and a blender of domestic alcohol with gasoline.

"3. The term 'gasoline' includes all products commonly or commercially known as gasoline (including casinghead or natural gasoline), benzol, benzene, or naphtha, and includes any other liquid commonly used as a fuel for the propulsion of motor vehicles, motor boats, or aircraft, or as an ingredient in the manufacture of such fuel; but does not include the domestic alcohol content of any of the foregoing.

"(d) For the purpose of this section, under such regulations as may be prescribed by the commissioner with the approval of the secretary, the quantity of the blend (containing gasoline and the percentage of domestic alcohol specified by the applicable provision of this section) sold by a producer during the period for which any return is made, shall be conclusively presumed to be the largest quantity of such blend that could have been produced from the quantity of domestic alcohol used by such producer during such period in blending with gasoline."

Motorists Protest

The American Automobile Association presents an extensive study showing the effect of an alcohol-gasoline fuel on the motorists. This paper shows the results of investigation by the association of cost and efficiency of proposed fuel-blending schemes. Road tests conducted under the auspices of the association's contest board furnished the basis of this report.

Ernest N. Smith, executive vice president of the association, said:

"The agitation for mixing alcohol with gasoline has assumed large proportions recently, and an effort is being made to rush bills through state legislatures and the national Congress without an adequate investigation of the value of this fuel under all weather and road conditions.

"The American Automobile Association has not up to this time taken any official position regarding this proposal but it has and will continue to conduct investigations in behalf of the motor car owners of the country whose pocketbooks and car operations would be affected by any radical change in the fuel content used in the motor cars of today.

"The American Automobile Association, in co-operation with other national groups, has been holding conferences with Department of Agriculture officials and experts in order to assure an exhaustive study of every phase of these new fuel proposals.

"The American Automobile Association deplores the effort to hasten drastic fuel legislation until these investigations are completed.

"We present the facts developed from a preliminary study made by the American Automobile Association. The results are somewhat astonishing and we suggest a careful study of the figures presented and conclusions reached and the use of appropriate publicity in connection therewith."

Would Double Motor Tax

Blending alcohol with gasoline to make motor fuel, a "farm relief" proposal now before Congress not only would not relieve the farmers but would increase motor fuel costs to motorists by roundly $500,000,000—about the same as increasing state gasoline taxes 100 per cent, it is estimated by B. H. Markham, director of the American Petroleum Industries committee.

He expressed the belief that if proponents of this scheme for distilling alcohol from surplus farm crops and blending 2 to 10 per cent with gasoline really think motorists should pay the cost of eliminating these crops, especially corn, it would be cheaper for each motorist to buy a few bushels and burn them. Study of costs under the blending scheme, Mr. Markham explained, indicates that while corn has been selling for only 25 cents a bushel, its disposal through alcohol distillation would cost the motorist upwards of $1 per bushel.

"Alcohol made from corn at price levels around 25 cents," said Mr. Markham, "costs 30 cents a gallon. A 10 per cent alcohol blend would increase the cost of motor fuel 3 cents per gallon, plus blending and distribution charges. But if the project succeeded in raising corn prices, as its sponsors fondly hope, to 60 cents per bushel, the increase would be around 4 cents per gallon, again plus blending and distribution charges.

"If each of our 25,000,000 motorists bought 20 bushels of corn at 25 cents a bushel and burned them, this removal of corn from the market would cost the average motorist only $5. But under the blending scheme, with a 10 per cent blend used nationally, the added cost of eliminating a few hundred million of the billions of bushels of surplus corn, would range from $465,000,000 to $655,000,000, or from $18 to $26 per motorist.

"Not only would it be cheaper to burn the corn, but it would remove it permanently from the market. Alcohol distillation would produce a number of by-products that certainly would tend to disrupt markets for other products, such as animal and vegetable fats and oils, cottonseed oil, peanut oil, lard, etc.

"Some of our motorists might be prevailed upon to contribute $18 to $26 a year for farm relief—or about as much as the average motorist now pays in state gasoline taxes—but the sad fact is that the farmer would get only a small portion of the contribution, say $5 to $12 at the outside. The man who stands to profit the most is the alcohol distiller.

"And motorists probably would not get off as cheaply as $18 to $26 more per year. Our national distilling capacity is insufficient to meet the demands of a 10 per cent alcohol blend. It has been estimated that at least $350,000,000 worth of new distillery construction must be undertaken. Furthermore, it has been suggested that the Federal Government should finance the building of distilleries. If this is done, the motorist, with other taxpayers, would have to share through general taxes in financing a scheme that would certainly increase consumer costs!"

"Quack Remedies"

President John A. Simpson, of the National Farmers' Union, in a broadcast from Washington, D. C., said:

"All kinds of cures for the ills that beset the farmer are bobbing up in Congress these days. One of these is a bill for requiring a certain per cent of alcohol in all motor fuel. The theory is that it would help corn farmers by using large quantities of corn for making industrial alcohol.

"The Department of Agriculture is making an investigation of the subject and a few days ago called those interested into a conference. I listened for two hours without getting much practical information. About that time the chairman asked me for any statement I would like to make. I told him I would like to ask the experts a few questions. I asked those interested in alcohol the wholesale price of alcohol per gallon at the present time. They told me 40 cents per gallon. I asked from what this 40 cents per gallon alcohol was made. They answered that it was made of blackstrap molasses. I asked why they did not make it out of 15 cents per bushel corn. They said that it would make the alcohol cost more, that blackstrap molasses was a cheaper material for making alcohol than 15 cents per bushel corn. I then asked what the wholesale price of gasoline was and they told me that a standard grade of gasoline was a little less than 3½ cents per gallon.

"I then suggested that in the first instance all the crude oil belongs to farmers; that it was a farm crop just as much as cotton or wheat. I also called their attention to the government reports that practically every state has oil potentialities. Some of the states where oil is still undiscovered are reported by the government geological surveys as having almost every acre an oil possibility.

"I am sure it would interest many

(Continued on Page 30)

Humble Cuts Crude Prices as Result of Flood of Oil From East Texas Fields

HOUSTON, Tex., May 2.—Drastic crude oil price reductions throughout Texas and New Mexico were announced here today by the Humble Oil & Refining Co. The new prices, effective this morning, follow: Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie and Moran, 25 cents; Gray County, 20 cents; Carson and Hutchinson Counties, 18 cents; West Texas and New Mexico, 20 cents; Gulf Coast, Refugio and Conroe, 30 cents; Mirando, 25 cents; Pettus, 35 cents; Salt Flat and Darst Creek, 23 cents. The East Texas posting of 10 cents per barrel is withdrawn.

W. S. Farish, president of the company, made the following statement in regard to the reductions:

"The excessive production of oil in East Texas and the low prices at which it is moving to market make it impossible for us to buy and sell oil produced in other fields on the basis of our present posted prices. This compels us to adjust prices in other fields if we are to continue to buy and sell oil from such fields.

"Under the conditions prevailing in East Texas we are unable at this time to determine what is a fair price for East Texas crude. We are, therefore, withdrawing our posted price in East Texas and until further notice will pay to such customers as desire to sell to us what we interpret to be the going price for such crude oil sold during the regular settlement period in which the oil is run."

The price cut in North Central and East Central Texas is at least 21 cents per barrel as the average price under the Humble's old schedule in those fields was about 46 cents per barrel. It means about an 18-cent cut in Gray County, but a considerably smaller reduction in Carson and Hutchinson Counties. In Conroe the old prices ranged from 54 to 64 cents and the Gulf Coast prices from 32 to 62 cents. Refugio was cut 15 cents, Mirando 10 cents, Pettus 20 cents, Salt Flat and Darst Creek 17 cents, and Lea County 10 cents.

Production of East Texas for the 24 hours ending at 7 a.m. Monday, May 1, is reported at approximately 1,100,000 bbls., with tank car shipments during that period totaling 875 cars. There were 1,100 wells shut in throughout the field by operators who are unwilling to sell their product at the prevailing prices.

Treating Problem at Refinery Involves Study of All Types Commercial Chemical Reagents

By E. C. HIGGINS, Jr.
The Process Development Co.*

Gasoline sweetening may be defined to the layman exactly as its name implies when specifically referring to the odor of the product—eliminating a foul characteristic odor for one more pleasant. To the refiner and petroleum technologist it represents the conversion of mercaptans by means of chemical treatment into the sweet smelling dialkyl disulphides or the employment of certain reagents to entirely remove the mercaptans.

It has been truthfully stated[1] that the sweetening of petroleum distillates by the doctor treatment is one of the most widely applied and least understood of any chemical reactions or processes used in the petroleum industry. Newton and Williams[2] state that the doctor test is next in importance to the distillation test. Since that statement has been made, however, other important tests have been instituted for gasoline specifications but the doctor still is a very important item. Campbell[3] describes the doctor sweetening process "as removing a certain amount of sulphurous compounds. It is a somewhat messy operation, as the sulphur combines with the lead salt and is precipitated as sulphide forming a dark brown sludge which must be recovered."

U. S. Motor specifications do not include the doctor test as a requirement. Domestic and fighting grades of aviation gasoline must be sweet. Even under these specifications, the nonpremium gasolines are practically all marketed negative to doctor, probably because they are a combination of U. S. Motor and domestic aviation specifications. It is believed that the doctor test is met because of sales competition, impressing the distinction in sweetened and nonsweetened gasolines to the consumer.

The origin of the term doctor sweetening or doctor treatment is difficult to trace. It has been stated[4] that it originated in one of the old eastern refineries as a result of a deodorizing process on coal oils. The use of a solution of lead oxide in caustic soda materially improved the odor of the product—"sweetened" it. The process was developed by the chemist of the plant who was naturally known by the nickname of "Doc." The operators on the agitators naturally looked to him for detailed instructions as to quantities, etc., to use and the process gradually became known as doctor treatment, or sweetening. And that term has been handed down in the industry.

In the early eighties the benzines were not fully deodorized[5] and "were used for detergent purposes for the extraction of greases from all kinds of fabrics, and for other uses where the disagreeable odor of crude benzine is not objectionable." Frasch's process[6] is referred to in several of the early publications wherein he employed lead oxide before the sulphuric acid treat.

It is unnecessary to describe the details of applying the doctor solution. Many variations of apparatus are employed, i.e., batch treatment with recirculation, continuous through vertical towers, "split doctor" in which both neutralization and partial sweetening are effected, and mixing nozzles discharging into horisontal settlers. All of these methods produce the same results and the final gasoline is negative to the doctor test[7]. In all cases it is necessary to add the requisite amount of free sulphur in solution to get complete conversion into disulphides, except in instances where there is ample free sulphur in the sour product to complete the reaction. Naturally, this addition must be regulated so that the copper strip will be negative.

Sweetening Process

There are several other known processes for sweetening petroleum products. Both sodium and calcium hypochlorite have been used with varying degrees of success and some plants still use these reagents. They show a chemical requirement averaging between 0.05 and 0.15 pound of chloride per barrel with a chemical sweetening cost of 1 cent per barrel. Hypochlorite has been generally discontinued because of its cost as well as corrosiveness on equipment. Cannon and Prutzmann[8] employ a mixture of alkali hydroxide, alkali earth hydroxide, lead oxide, diatomaceous earth and water. Based on experimental data, one major company reports an indicated saving of approximately 60 per cent of the cost of sweetening gasoline over the sodium plumbite method. It appeared as if this method is satisfactorily operative, but that the initial investment cost is high and the handling of the reagent through presses, etc., appears intricate.

During the years of 1930, 1931 and 1932, the petroleum refining industry consumed annually an average of 125,000 tons of caustic soda[9], 11,000 tons of litharge[10], and 1,200 tons of sulphur[9]. Assume that 40 per cent of the above caustic soda was used for other refining processes leaving 75,000 tons as well as all of the above litharge and sulphur for doctor treating. Based on average prices for the period, annual chemical expenditures for doctor treating are:

Caustic soda, 75,000 tons at $50	$3,750,000
Litharge, 11,000 tons at $110	1,210,000
Sulphur, 1,200 tons at $25	30,000
Total	$4,990,000

Based on an average daily gasoline consumption of 1,050,000 bbls.,[11] the chemicals required for sweetening are:

Caustic Soda,	413 lbs. per 1,000 bbls.
Litharge,	58 lbs. per 1,000 bbls.
Sulphur,	6.3 lbs. per 1,000 bbls.

The above statistics show that the average chemical sweetening cost in refineries in the United States is approximately 1½ cents per barrel. This cost does not include any labor, supervision, maintenance or utilities. Nor is the cost of doctor revivifying included therein[12]. Figures for this operation vary greatly—from .004 cent to 3 cents per pound of litharge or lead salts recovered. It is noteworthy to mention that a "sodium plumbite regenerator" has recently been put on the market which claims a 95 per cent litharge and 85 per cent original sodium hydroxide recovery. Large revivification plants can operate at one-half cent per pound litharge or less[13]. However, such layouts require tankage and equipment. In all uses of doctor sweetening and revivification, there is an oil loss due to emulsification as well as handling. Large refineries that do not recover their doctor generally use the new solution on their better grades of gasoline, then kerosene followed by stove distillates and furnace distillates before discarding.

At Lower Costs

Most refiners will state doctor sweetening is not extremely difficult, and that the cost of operation is low. These statements are partially correct for refineries using doctor solutions or other sweetening reagents. It is the purpose of this article to describe a commercial process producing a specification product at much lower costs and constituting operations which are simpler and less subject to human variance.

The reagent used is magnesium hydroxide, the process termed Brucite[14]. The material is used in the granular state, in such sizes that it will pass through three-eighths-inch and remain on 40-mesh. While the mineral magnesium hydroxide (brucite) is available, it has been found advantageous to calcine magnesite ($MgCO_3$) which is free from any calcium salts and low in inert materials, ship the resultant magnesium oxide (MgO) to the refinery and hydrate to magnesium hydroxide ($Mg(OH)_2$) in the apparatus.

The reactions[15] taking place in the process are analogous to those when using doctor. The magnesium hydroxide converts the mercaptans into magnesium mercaptides and the addition of elementary sulphur reacts with the magnesium mercaptide forming dialkyl disulphides and magnesium sulphide. The magnesium sulphide deposits as a thin film on each particle of Brucite, rendering that particle inefficient. As the sweetening cycle progresses, increased deposits of magnesium sulphide continue until such a time as the Brucite operations become uneconomical. At this point revivification[16] is necessary. This step depends upon the decomposition or hydrolysis of the magnesium sulphide into magnesium hydroxide by means of boiling water. Herein lies one of the salient features of the process—except for mechanical losses and secondary reactions, none of the original reagent is consumed and is substantially 100 per cent recoverable. This places the process in a position of eliminating chemical consumption and costs.

Apparatus Used

The apparatus consists of two or more towers, connected in series, 5 feet in diameter and 30 feet high, or approximately those proportions. If more than two towers are used, they are so manifolded that any combination can be operated while the balance are being revivified. Each tower is equipped with a set of drying coils. Several different types of coils are being used—spiral, cross head-

(Continued on Page 33)

*Before Western Petroleum Refiners Association, Hot Springs, Ark. April, 1933.

[1]Born, Petroleum Engineer, Vol. 8, p. 149, August, 1931.

[2]Petroleum Age, 6, No. 3; 41-4 (1919).

[3]Second edition, 1932, p. 173.

[4]Statement of the late W. S. Price, Constantin Refining Co., 1914.

[5]"Practical Treatise in Petroleum," Crew, p. 279; 1337.

[6]U. S. Patent No. 275,246.

[7]Federal Specifications Board, Master Specifications for Lubricants and Liquid Fuels, Method 520.3; Bur. Mines Bull. 322 B, 96 (1922).

[8]U. S. Patents No. 1,795,784 and 1,888,219.

[9]Chemical & Metallurgical Engineering; January publications.

[10]"Lead and Zinc Pigments and Salts in 1930," ditto, 1931; Bulls. No. 1-7; and 1-13; Bur. Mines, by E. W. McPherson.

[11]A.P.I. Statistical Bulletins.

[12]U. S. Patent No. 1,667,500, J. B. Hill; No. 1,863,967, G. H. Burrus.

[13]The Oil and Gas Journal, Sept. 18, 1930, p. 46.

[14]U. S. Patents pending, Higgins & Gardner.

[15]Gardner & Higgins, Industrial & Engineering Chemistry; Vol. 24, p. 1,145, 1932.

[16]U. S. Patents pending, Higgins & Gardner.

Magnolia Posts 25 Cents for East Texas Oil, But 10-Cent Market Prevails

With the exception of the Magnolia Petroleum Co., which posted a price of 25 cents per barrel in the East Texas Field on April 26, all the purchasing companies that had been paying 50 cents per barrel in that field, met The Texas Company's reduction to 10 cents per barrel, or announced their intention to pay the average price paid in the field.

The Texas Company's price was posted on April 24. On the following day the Humble Oil & Refining Co., Stanolind Crude Oil Purchasing Co., Tide Water Oil Co., Panola Pipe Line Co., Arkansas Fuel Co., Empire Oil & Refining Co., Sun Oil Co., and Shell Petroleum Corp., met the price. On Wednesday, April 26, the Sinclair Prairie Oil Marketing Co. came into the 10-cents-per-barrel fold, but the Magnolia Petroleum Co. posted 25 cents per barrel on that day.

The Magnolia Petroleum Co. is an important purchaser in East Texas. In the month of March the company is credited with having run from wells an average of more than 43,000 bbls. per day. Of this, more than 29,000 bbls. per day was oil purchased, the remainder having been the company's own production.

Several companies issued brief statements explaining their position, and some of them gave notice that it would be physically impossible for them to handle as much oil in their pipe lines as the allowable production of 750,000 bbls. per day would thrust upon them. The Sun Oil Co. said it would purchase ratably to the limit of its capacity to do so. The Humble Oil & Refining Co. said the capacity of its pipe line facilities in East Texas was from 60 to 75 per cent of the production allowed the wells connected to its lines, and of this 60 to 75 per cent it would purchase only 75 per cent of the oil run.

The Gulf Pipe Line Co. withdrew its posted price and announced that it would pay the average price paid by the leading buyers in the field, but that it would run only as much oil as it could handle in its lines.

The Shell Petroleum Corp., through its president, R. G. A. van der Woude, reaffirmed its conviction that the producer of crude oil under an efficient system of proration is entitled to receive a price which will allow a fair margin of profit to the producer, but "a small minority of producers by producing in total disregard of proration orders, the interest of the oil industry, and the welfare of the country, have created a situation which makes it impossible to pay the producer a price in line with the conviction and thought of the company."

The Dallas News and the Fort Worth Star-Telegram in strong editorials laid the blame for the 10-cent price squarely on the shoulders of the Texas Railroad Commission.

On May 2 the Humble Oil & Refining Co. announced that it had withdrawn its posted price in East Texas and would, commencing May 2, pay what it considered to be the going price in that field for all oil bought by it.

"Self-Refrigeration" of Lubricating Oils Through Use of Propane Improves Their Quality

By ROBERT C. CONINE

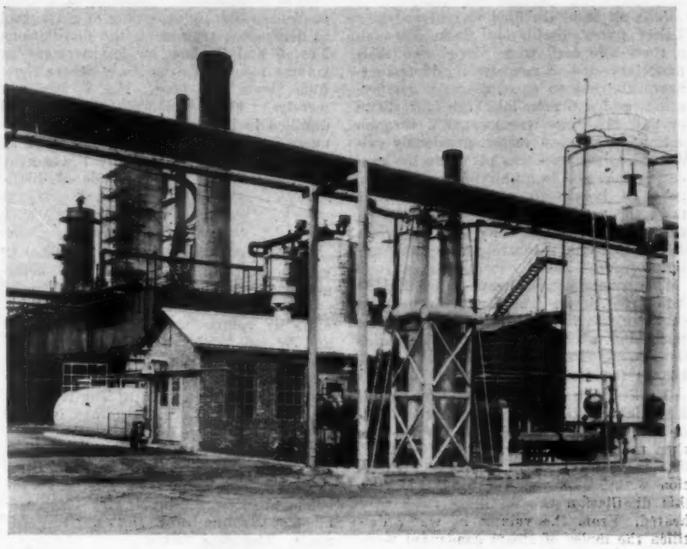
Self-refrigeration in the process of dewaxing lubricating oil stocks is the latest development of Standard Oil Co. (Indiana) technologists, and, while following close upon the heels of another notable achievement, that of selective extraction of naphthenic elements in lub stocks by means of $\beta\beta'$-dichlorethyl ether, this new method for removing wax is certain to attract immediate attention when the process is described at the meeting this month of the American Petroleum Institute in Tulsa. Sufficient data are available for the presentation of general outline of the "self-refrigeration" dewaxing process here. Improvements effected in the "chlorex" extraction method since the preparation of a paper on this subject and recently published (The Oil and Gas Journal, April 20) are likewise described here. The new dewaxing and chlorex extraction plants are in operation at the Wood River, Ill., refinery of the Standard company. The chlorex extraction plant described in an earlier issue of The Oil and Gas Journal is at the Casper, Wyo., refinery of this company.

Propane in Dewaxing Lub

The accompanying diagram indicates the different steps in the production of wax-free, "nonsludging" lubricating oil of high viscosity index at the Wood River refinery. Propane containing some butane is mixed with the oil to be dewaxed in the proportions of 70 to 75 per cent of propane to 25 to 30 per cent of oil. The mixing is done in chillers of 1,600 gallons capacity each. The propane-oil mixture is under pressure of 180 to 200 pounds per square inch, so that the propane remains liquid at temperatures of 90° to 100° F. Although not shown in the diagram, there is a second tier of chillers directly below and connected with the chillers shown. The chillers are heavily insulated and when the mixing of the propane and oil is completed the pressure in the chillers is gradually released. The attending drop in temperature may carry the solution as low as 40° F. below zero. This "self-refrigeration," it is pointed out, is cheaper and more efficient than the ordinary indirect refrigeration methods. The fluidity of the oil to be dewaxed even at the low temperature of —40° F., is due, naturally, to the large proportion of propane present in the solution, and there is no danger of the flow from the chillers being obstructed by wax built up in the manifold and lines from the chillers to the filtering unit.

Unique Vertical Filter

The filtering unit is a vertical affair designed by technologists of the Standard Oil Co. (Indiana). The familiar horizontal press from which the wax cakes must be removed by hand is replaced by a unit which has a flow rate in the general neighborhood of 1 gallon per hour per square foot of filtering area, and in which the deposited wax is removed from the filter cloths by a reverse flow of warm propane under 200 pounds pressure. As indicated in the diagram, the propane and oil solution is forced under pressure through the filter cloths and out of the vertical unit overhead to a working storage tank.



Single chamber continuous chlorex extraction plant capable of processing 1,000 barrels of finished lubricants daily

Propane Recovery

From the working storage tank the filtrate and propane solution go to a propane recovery column where the pressure is reduced to between 30 and 40 pounds per square inch and the propane "boils off" passing overhead to storage. Propane is similarly recovered from the wax slop which drops into the cone-shaped bottom of the vertical filter unit. This wax slop is removed from the bottom of the filter by means of a worm conveyor.

The New Chlorex Unit

After the propane is removed from the filtrate the lubricating oil stock passes from the bottom of the recovery tower through a warm propane heat exchanger, as shown in the diagram, and into the chlorex unit working tank. This chlorex extraction unit (at the Wood River refinery) differs radically from the unit at the Casper refinery. The Wood River unit has the same daily capacity as the propane dewaxing unit, that is, 800 to 900 bbls. (50 gallons) of finished oil. The new extraction plant represents a considerable advance in design in the continuous countercurrent method. In the Casper and the Wood River units the two liquid phases are separated by gravity, the $\beta\beta'$-dichlorethyl ether being heavier than the filtrate or raffinate. However, in the Casper unit the fresh chlorex, first chlorex extract and second chlorex extract, are routed through a series of settling tanks by means of centrifugal mixers, while in the Wood River unit the entire extraction treatment is carried out in a single chamber of some 40 feet in length. This cylindrical chamber is slightly inclined and the interior is divided into semicompartments so that the flow of the liquids from one end of the chamber to the other is restricted to a comparatively narrow channel which interrupts both liquid phases, as shown in the diagram. "Bucket" paddles located on a gear-driven shaft along the axis of the chamber force the filtrate and solvent into thorough and repeated contact. The filtrate enters the extraction chamber at the top of the lower end and works its way to the top of the raised end of the chamber. Fresh chlorex enters the chamber at the bottom of the raised end, and the chlorex extract leaves the chamber at the bottom of the lower end. As the level of the chlorex at the lower end of the chamber completely fills the narrow central channel, the incoming filtrate must be forced down into the used chlorex by the paddles. As the filtrate moves along the channel it has freer passage and its contact is with fresher chlorex. The raffinate and extract go to separate chlorex strippers. The end product of the first to be sent out is Iso-Vis D motor oil, and that of the latter to be used as fuel oil. Other data pertaining to chlorex extraction are presented in the article cited above. Chlorex is the trade name given by the manufacturers, Carbide & Carbon Chemicals Corp., for $\beta\beta$-dichlorethyl ether. Chlorex is made from ethylene, which forms a considerable part of gas produced in vapor phase cracking of crude oil, and chlorine water. Ethylene chlorhydrin is produced and the removal of HOH from two molecules of this compound produces one molecule of chlorex and water, thus:

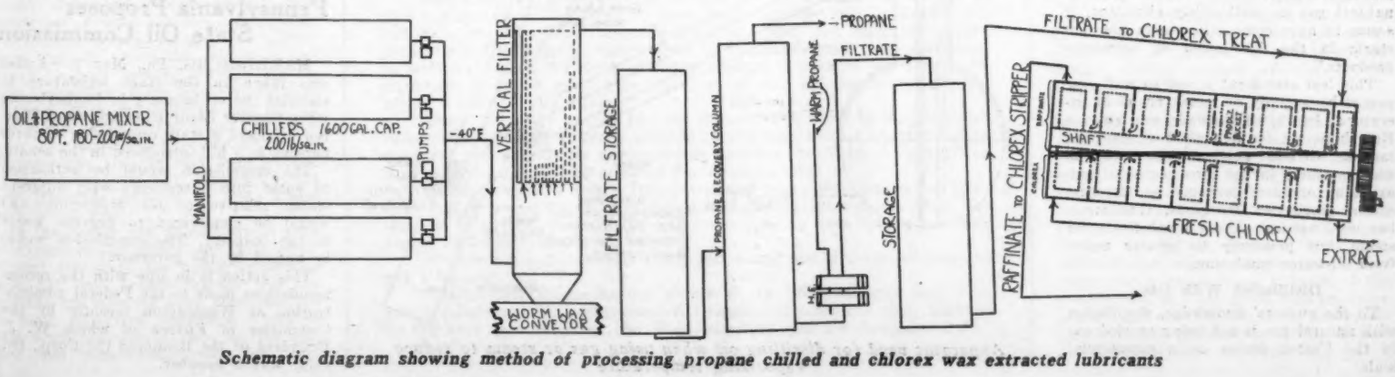
$$\begin{matrix} CH_2 & - & CH_2 & & CH_2 & & CH_2 & & CH_2 & - & CH_2 & - & O & - & CH_2 & - & CH_2 \\ | & & | & & | & & | & & | & & & & & & & & \\ Cl & & OH & & OH & & Cl & & Cl & & & & & & Cl & & \end{matrix}$$

Fortunately, it is pointed out, the oxygen atom in the chlorex molecule is not displaced in ordinary course by a sulphur atom. Otherwise the unusually stable and noncorrosive chlorex molecule would be transformed into a far from innocent mustard gas molecule.

Improvements Timely

These improvements in the manufacture of lubricating oils, together with comparable advances in gasoline production involving new installations ranging from mammoth vapor recovery plants to the 20,000-bbl. capacity combination topping and cracking unit at the Whiting refinery, are much too important to be thrown into the shadows by the announcement that this company has practically completed plans for the construction of a 40,000-bbl. refinery on the Houston Gulf Channel to supply its subsidiary, Pan American. The huge combination unit at Whiting has just com-

(Continued on Page 45)



Schematic diagram showing method of processing propane chilled and chlorex wax extracted lubricants

Comparison of Steam and Hydrocarbon Gas as Distillation Media in Petroleum Industry

By GORDON ALLEN and F. T. GARDNER
University of Tulsa

The use of low-pressure steam as a distillation medium, although a widespread practice in the petroleum industry, may not represent the most economical plant practice in many instances. In cold weather, for example, such a heavy demand for low pressure steam may arise that the normal high-pressure exhaust of the plant is insufficient to meet the requirements. This necessitates the use of high-pressure steam to meet the peak demand thus created.

Such practice is far from inexpensive, as any refinery accountant possessing accurate knowledge of steam costs can testify. The use of natural gas or still gas as a distillation medium may in many instances be more economical than steam distillation, particularly for meeting peak demands.

Gas is delivered to or produced in most refineries under sufficient pressure to make possible direct employment in distillation processes, after which the gas could be employed for fuel purposes, preferably after recovery of any liquefiable hydrocarbons carried out in the gas stream.

The purpose of the work here described was to make a laboratory comparison of steam and natural gas in a series of distillations in order to ascertain whether the use of gas distillation is feasible.

Steam Distillation

The principles of steam distillation are well known. The distillation of any mixture will take place when the total vapor pressure is equal to atmospheric pressure. According to Dalton's law, if two vapors are present (that is, the vapor over a mixture) each will exert its pressure independent of the other. Theoretically, if equilibrium is obtained, any other vapor substituted for steam, mole for mole, should give the same results. Gurwitsch brings up the point of the rate of evaporation as prerequisite for equilibrium, and argues that the lighter the molecules of distillation medium the greater the rate of evaporation. The molecules weight of the medium is of slight importance in the distillation, because the chief factor controlling the rate of evaporation is the rate of travel of molecules of the liquid being evaporated across the interface between liquid and gas. This rate is so much slower than the rate of removal of molecules of evaporated substance on the gas side of the interface that the actual speed of travel of molecules of the gaseous distilling medium has little effect on the rate of evaporation.

Quoting Gurwitsch: "Methane will be very suitable for this purpose (promoting the evaporation of petroleum products), and in North America, where methane as natural gas is particularly abundant, it seems to have come into use in place of steam in the distillation of petroleum products."

This last statement is not so well supported by a study of recent chemical literature. In 1916 Grimwade was given a British patent for a method of distilling tar oils, carbolic acid, cresylic acid and such products in the presence of a non-oxidizing or inert gas such as nitrogen, carbon dioxide or flue gases. Griedmann has used natural gas as a substitute for steam, but primarily to remove water from oil-water emulsions.

Distillation With Gas

To the authors' knowledge, distillation with natural gas is not being carried out in the United States on a commercial scale.

The oil to be distilled was placed in a 1-liter pyrex distillation flask. Through a three-hole cork were placed two thermometers, one to measure liquid temperature and one to measure vapor temperature, and a 6 mm. inlet tube for steam or gas. The gas was measured through a Sargent wet-test meter, previously calibrated. Glass wool was placed in the condenser tube and in an auxiliary condenser tube to break up any distillate that might be entrained as mist, especially in using gas as the distilling medium, when difficulties due to entrainment were encountered.

The experimental work was divided into three parts. The first two were to compare the flashpoints of various tars remaining after various identical distillations using first steam and then natural gas as the distillation medium.

1. Starting with 500 cc. of crude oil, a straight distillation was carried on up to 390° F. The flashpoint of the tar was then taken. The oil was heated to 260° F., steam was cut in, and the distillation with steam was continued. During this distillation the distilling flask was heated. From the volume of water distilled the moles of steam condensed were calculated. An identical distillation was carried on by introducing the same number of moles of gas (calculated) through the meter. The flashpoints of the residual tars were taken. The data obtained were:

No.	Type	Vol. dist. to 390° F.	Flashpoint of tar, ° F.	Max. temp. in 2d dist'n.	Distillation: Moles H_2O or gas	Distillation: Cc. oil	Flashpoint of tar, ° F.
1	Steam	105	210	390	15.73	105	365
2	Gas	110	200	390	15.64	105	375

2. Exactly the same process as 1 except that starting volume was 750 cc. and the preliminary distillation was to 250° C. The data from this part follow:

No.	Type	Vol. dist. to 480° F.	Flashpoint of bottom	Max. temp. 2d dist'n.	Distillation: Moles H_2O or gas	Distillation: Cc. oil	Flashpoint of bottoms, ° F.
3	Steam	258	270	480	12.22	155	415
4	Gas	250	275	480	12.22	135	410
5	Gas	245	275	480	12.32	140	410
6	Gas	255	270	480	12.22	145	219
7	Steam	240	265	480	12.78	145	410

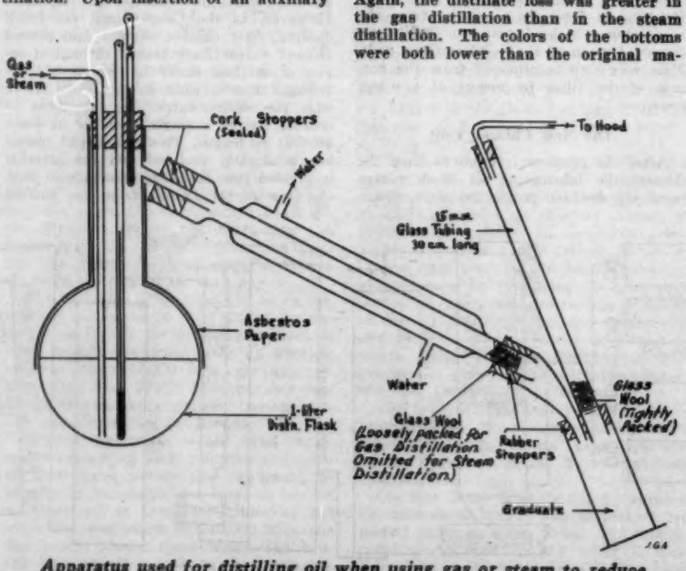
The main difficulty was to improve the volume of distillate in the gas distillation. Upon insertion of an auxiliary condenser containing a plug of glass wool to decrease entrainment, the distillations Nos. 5 and 6 show an improvement in volume recovered over No. 4 where these items were not used. No. 7 was run merely to check the large volume of oil distilled in No. 3. With this check, Volumes 5, 6 and 7 may be considered as comparable, there being only 3 per cent difference in the two methods of distillation.

Effect on Color

3. The comparative effect on color of gas and steam distillation was determined. A mixture of 40 per cent bright stock of good color and 60 per cent gasoline by volume was distilled by steam and by gas. Color and flash tests were made on the original material before dilution and upon the bottoms. The color tests were made with a Tag-Robinson colorimeter. The scale readings indicate the number of cm. of oil solution equal to a given color standard. It follows that the larger the scale reading the lighter the color of the oil. In each case the bright stock was diluted with three volumes of gasoline before the color test was made. The data follow:

No.	Type	Vol. of diluent, cc.	Flashpoint, ° F. Orig.	Flashpoint, ° F. Bottoms	Color Orig.	Color Bottoms	Max. temp. in dist'n.	Distillate: Moles H_2O or gas	Distillate: Cc. gasoline
10	Steam	240	550	535	6.25	3.75	480	4.44	240
11	Gas	240	550	550	6.25	4.00	475	4.44	225

The flashpoints of the tar were again comparable, the gas distillation giving bottoms of slightly higher flashpoint. Again, the distillate loss was greater in the gas distillation than in the steam distillation. The colors of the bottoms were both lower than the original material, but the gas distillation gave slightly the better color. It was feared that possible oxygen present in the gas might have an effect on the color through oxidation processes, but this was not the case.



Apparatus used for distilling oil when using gas or steam to reduce vaporizing temperature

Summary

The advantages and disadvantages of gas distillation may be summarized as follows:

Advantages:

1. Possible lower cost of distillation in many cases.

2. Obtainment of bottoms equal in color and flash to those obtained by steam distillation.

Disadvantages:

1. Entrainment of mist of condensate in fixed gas, necessitating the use of suitable separators.

2. Necessity of freeing gas of liquefying hydrocarbons if best economy is to be attained.

These disadvantages would not be serious in many plants because the distillation apparatus in use is designed to take care of entrainment, and most plants are equipped for recovery of gasoline from fixed gases.

Holmes Is Now Chairman; Rogers Texas President

NEW YORK, May 1.—W. S. S. Rodgers, vice president, director, and member of the executive committee of The Texas Corporation and The Texas Company, has been elected president of both companies, following the annual meeting of stockholders. Mr. Rodgers succeeds R. C. Holmes, who becomes chairman of the board. J. H. Lapham, a director and a member of the executive committee of the two companies, is the new chairman of the executive committee.

No especial importance is attached to the changes in executive personnel, which are described as "purely an internal arrangement." The Texas Company has been without a chairman of the board since the resignation of Amos L. Beaty, late in 1927.

W. S. S. Rodgers, the new president, has been in charge of sales. Other officers and directors were re-elected.

Pennsylvania Proposes State Oil Commission

HARRISBURG, Pa., May 1.—Action was taken in the state legislature to stabilize the oil industry in Pennsylvania when Senator Leroy E. Chapman of Warren proposed a state commission of three persons in a bill introduced in the senate.

The commission would be authorized to enter into agreements with adjacent states relative to oil production and would be empowered to prevent waste in the industry. The commission would be named by the governor.

This action is in line with the recommendations made to the Federal administration at Washington recently by the Committee of Fifteen of which W. J. Brundred of the Brundred Oil Corp., Oil City, was a member.

Great Changes in Developments on Gulf Coast; Different Types of Fields and Oil Found

By NEIL WILLIAMS

HOUSTON, Tex., May 1. — Developments within recent years and more particularly in the past year have brought many changes among Gulf Coast fields. Not only have a great number of new pools been opened, but among these have been various different types not previously characteristics of coastal operations; new grades of oil and kinds of production have been uncovered; deeper horizons have been explored and found productive, and operations have been extended into semivirgin territory beyond the strict confines of the so-called orthodox coastal area. Revelations of these discoveries have indicated that the development of coastal reserves is only in its comparative infancy and that the way is just being paved now for the exploration into the realm of possibilities not thought of before.

Until within the last several years production on the Gulf Coast has been thought of largely in terms of salt domes with oil of heavy grades and of value primarily for lubricating oil stocks. Deeper drilling has led the way to the exploration of deeply seated structural conditions other than domes not only in that territory outside of what now is known as the coastal salt dome district but also within the district itself. Along with this has been a very decided trend to lighter gasoline grades of crude comparable with those yielded in the structural districts. The importance of the increasing production of lighter oils on the Gulf Coast and the revaluation of oils on their gasoline content rather than their lubricating worth was emphasized late in 1931 when major companies discontinued the postings of "Grade A" oil and placed all crude on a single gravity scale basis. The Grade A oil, the original coastal crude and which had commanded a premium for its heavy lub content, by reason of being of gravities below 25, has been supplanted by lighter oils as the characteristic Gulf Coast crude.

Important Gas Reserves

Very noticeable in the evolution of coastal fields has been the proving up of important potential gas reserves. Nearly all the newer fields have given evidence of considerable gas with high pressures. The older coastal fields might be called nonproducers of gas with the oil production being controlled mainly by hydrostatic energy. What gas was yielded was of small extent, short-lived and mainly of hydrogen sulphide characteristics. That extensive gas reserves are being proved up now and were not known in earlier Gulf Coast development may be attributed to the discovery and exploration of the more deeply seated and nonpiercement types of domes and structures. Until recently and before geophysical explorations came into more extensive use, coastal development centered with few exceptions around shallow, piercement type of salt domes. Being of the piercement type, in which the salt mass had forced its way upward through the recent formations, these upper formations of those domes were broken and faulted and it is possible that although the reservoirs may originally have contained considerable gas, the gas may have escaped to the surface. In fact, it was through seeps that the majority of these domes were found first.

In the deeper and nonpiercement type of structures and domes now being hunted and developed, the upper formations have not been broken through and the original gas reserves have been retained in their respective reservoirs. There is very little evidence of these on the surface and consequently they have remained hidden until the present time when more thorough geophysical exploration and knowledge, and deeper drilling practices, stimulated by the need for the proving up of additional future petroleum reserves, have led to their discovery.

Deeply Seated Domes

Illustrative of these newer, deeply seated domes or structures on which extensive gas reserves have been proved are such fields as Pledger, Brazoria County; Mykawa, Harris County; Buckeye, Matagorda County; Rabbs Ridge, Fort Bend County; Manvel, Brazoria County; Garwood, Colorado County; Livingston, Polk County; Spurger, Tyler County; Conroe, Montgomery County; Iowa, Calcasieu and Jefferson Davis Parish, Louisiana. There are also a number of shallow domes in the extreme southeastern part of Louisiana, such as Garden Island Bay, and Venice in Plaquemines Parish, and Bay St. Elaine, Terrebonne Parish, which have shown high pressure gas reserves. The many numerous gas reserves in the lower coastal district have not been included.

Conroe, Garwood, Livingston and Spurger are located just out of what originally was designated as the orthodox coastal salt dome district. These may or may not be salt domes. The others are within the strict salt dome area. Conroe is the most fully developed and has been proved to have extensive gas reserves, there being at least seven gas sands, not including the main pay horizon, which carries a high pressure gas cap. One of these gas sands, the upper Cockfield, has been proved productive of oil down dip but it is primarily a gas reservoir with high pressure. The discovery well at Conroe, G. W. Strake's No. 1 South Texas Development Co., came in as a wet gasser from what is now known as the upper Cockfield sand.

At Garwood, the discovery well, Coyle-Concord Oil Co.'s No. 1 Nelson, came in from a sand at a total depth of 4,052 feet and was rated as good for at least 50,000,000 feet of gas daily. On completion it showed a pressure of 1,500 pounds on the casing and 1,450 pounds on the tubing through a quarter-inch choke. Several additional tests are drilling but so far none has been completed. The discovery well also passed up at least two sands which on drill stem tests showed good for commercial gas production.

Livingston Field

The Livingston Field was opened much like that of Conroe, the discovery well, Dick Schwabb's No. 1 Davis & Holmes, being a high-pressure wet gasser. Since its completion, oil production has just been brought in by Shell Petroleum Corp.'s No. 1 Davis & Holmes. At Spurger the first and only well so far is a wet gasser completed in sand at 4,690 feet with tubing pressure of 2,020 pounds and casing pressure of 1,950 pounds. A number of dry holes have been drilled in the latter area but to the east and southeast the area still is open for development.

In the original salt dome district, Pledger is probably among the most typical of the deeply seated salt domes which have been proved up for gas. The first well, Danciger Oil & Refining Co., and Hamill Drilling Co.'s No. 1 Hunt, has indicated an unusually prolific reservoir of high pressure gas in a sand at a total depth of 6,976 feet. The pressures were so great operators had difficulty in bringing it in under control and after continued production pressure is being maintained around 2,400 pounds. It is estimated good for 50,000,000 feet daily.

The Rabbs Ridge (Thompson), being operated principally by the Humble Oil & Refining Co. and Gulf Production has proved up some extensive gas reserves although these are not being developed. Several high pressure gas sands, in which a number of bad blowouts have been experienced, are passed up to reach the oil-producing horizon.

Among the newest areas to give promise of coastal gas reserves is that at Lake View, north of El Campo, Wharton County. So far there is no production but the first test, Smith and associates' No. 1 Mitchell, encountered considerable difficulty with gas in drilling to a total depth of 6,875 feet and now are plugging back to 3,250 feet, above which two gas sands were passed which on drill stem tests showed for production.

Stages of Development

The history of development of Gulf Coast fields groups itself into a number of well defined stages. In a discussion before the recent annual meeting of the American Association of Petroleum Geologists, Alexander Deussen, Houston consulting geologist, listed these stages as being: First the original or cap rock period; second, the Miocene sand development; third, the Oligocene sand period, and the present the lower Oligocene sand and the Eocene exploration.

The cap rock period opened with the discovery of Spindletop in 1901. During this period production was confined to the cap rock areas on top of the old domes, such as Spindletop, Sour Lake, Humble and Batson and a few others. In 1914, production was opened at Sour Lake in a Miocene sand off the side of and flanking the dome. This led to an extensive exploration of similar sands around other domes. Drilling, however, was comparatively shallow with few tests below 3,000 feet. This is known as the Miocene period of development.

It was not until 1923 that any particular attention was directed at possibilities of lower flanking sands. In that year deeper drilling uncovered production in the upper sands of the Oligocene at Humble, this initiating a new period of deeper drilling around all the known domes.

More recently as still deeper drilling has been followed, prolific production has been obtained in the lower Oligocene sands, typical of which are the Rabbs Ridge, Pledger and Buckeye Fields, and in the still lower Eocene sands, such as at Conroe, Livingston and other areas along that trend and in a few instances around some of the domes. It is in these horizons that nearly all the present development is centered and it is out of the development of these sands that the more prolific gas reserves are being proved. It has been the exploration of the Eocene

(Continued on Page 33)

Houston Once Was Easy Going, But Now the Oil Man There Is Busy

By A. P. EYE

Correspondent Extraordinary

HOUSTON, Tex., May 1.—"It beats the dickens how things have have changed in Houston since I was here the last time," ejaculated G. A. Slift, Mid-Continent oil operator, as he sank into a chair beside the telephone. "The fellows are just as friendly as ever when you see 'em, but gosh you can't see 'em. They're working and I don't mean maybe. The oil business is getting bigger every minute in this district and it looks as though vacations would be short this year.

"Take John Suman, of the Humble. I've been around to see him three times. John never was one to loaf, of course, but before they got so hopping busy around here he usually managed to stop and have a little chat with you. Well, twice this week I found he was out of town. The third time there was a line waiting to see him like the one in the cafeteria at 12:05.

"Then there's Curt Hamill. Curt's a drilling contractor. I've always enjoyed dropping in to see him when I'm in Houston and talking over the old days at Spindletop. He drilled the Lucas gusher that opened that field. When I go up to his office now he's shut up with somebody in his private room, and there's a flock of fellows milling around outside waiting their turn to get to him. On business, mind you. They aren't there just to exchange pleasant conversation.

"And Ted Swigart—he's in charge of the Shell's operations in this region. He and I used to hunt deer together out in California, but he's one of those misguided mortals who put business before pleasure and he's got so much work on his hands now that you might as well try to see the King of Siam without a pass. When I saw the situation I didn't even give the girl at the information desk my name. I said I'd call again.

"About the only one of my old friends I've seen is H. T. Staiti, independent operator, and I wouldn't have seen him if he hadn't seen me first and yelled. He was starting out for the field. At his office they told me they don't see him for days on end.

"Houston always was a fine town and there was plenty of business, but it was sort of easy going like. Folks took their time. But this oil thing has got so big in the last year or two that everybody seems to be stricken with work.

"Excuse me a minute till I telephone and see if I can arrange to get a haircut.

"Hello! Salt Dome barber shop? G. A. Slift talking. Say, how about a haircut this afternoon? All right, I'll hold the line. Booked up till 3:45 next Monday, eh? Well, all right, put me down for 3:45."

Flood of Oil Is Pouring From East Texas Area; Watching Effect on Bottom Hole Pressure

By L. E. BREDBERG

DALLAS, Tex., May 1.—The 10-cent price now being paid by all purchasers in the East Texas Field with the exception of Magnolia Petroleum Co., which is paying 25 cents per barrel, is expected to remain until a lower allowable is set and conditions straighten out in the field. Regardless of the present low price now being paid, producers and majors alike continue to run the entire allowable of the field, one report stating the field is producing around 900,000 bbls. per day. Many wells are reported to be shut in, but those which are producing are more than making up the difference, and it looks as if producers will continue to bring it to the top and market it regardless of the price.

Tank cars are again hauling out large quantities of crude and refined products. For the 24 hours ending at 7 a. m., April 29, 698 cars left the field. For a like period ending at 7 a. m., April 30, 875 cars were shipped out.

Those who have been purchasing and storing oil below the former posting of 50 cents, at around 20 to 30 cents per barrel, are now "in the nine hole" with a lot of oil on their hands and wondering how they will be able to unload it without a loss. Purchasers who have considerable empty storage and are in position to purchase crude at its present low price stand a good chance of profiting.

Many operators, landowners and royalty owners have been holding meetings throughout the field and in Dallas during the week, asserting themselves for a general shutdown of the field. So far little has been accomplished. No major company has signified it was willing, or would shut in its wells.

Pressure Drops

If the commission does not move in accordance with the governor's request to curtail production it will be interesting to note how bottom hole pressures fall within the next nine days, during which time from 800,000 to 900,000 bbls. per day will be produced. Before the recent shutdown, when the field was producing far above the allowable of 400,000 bbls. set by the commission, one company made frequent bottom hole pressure tests on wells on its leases throughout the field. One well, in the Joiner area, Rusk County, fell 156 pounds in 26 days due to wells on nearby leases, owned by another company, being produced at a far greater rate than allotted. Wells on other leases fell 3, 5 and 6 pounds per day on bottom hole pressure because of similar withdrawals by offset and nearby producers. If the field is produced at a high rate during the next nine days pressures throughout the field will no doubt show that rapid withdrawals have telling effect.

Many who have been in favor of curtailing production to market demand are now discouraged and favor unrestricted flow, come what may. They feel that if the field is allowed to produce unrestricted for a couple of months it will prorate itself, salt water on the west side, and falling pressures on the east side soon changing the entire situation, writing off vast potentials. Fee owners and royalty owners, as well as small producers, would suffer, but in the long run the field would right itself and those who are able to hang on would benefit.

No Promising Wildcat

There is no promising wildcat in the entire East Texas district at the present time, and many drilled in the past have proven failures. This one condition is heartening to those who have been watching and hoping that East Texas could get straightened out.

Wadley & Lyons and others' No. 1 Shuttlesworth, in the J. M. Dunn Survey in the Jamestown area, Upshur County, appears as having better chances for making a producer than formerly reported, although it will no doubt make but a small one and be of little interest. It topped the sand at 3,722 feet and on the third drill stem test from 3,710-24 feet it made 500 feet of oil and 50 feet of salt water in 25 minutes. Pipe will be run and another test made. Total depth is 3,724 feet. This test is north and east of small producers north of the main producing area.

McElreath and Suggett's No. 1 Scott, in the Cleveland Robb Survey, near Murchison in Henderson County, topped the Woodbine series at 4,500 feet and is drilling at 4,530 feet. It is considered as having small chances for making a producer, and will write off another interesting area.

This week Sun Oil Co. announced location for its No. 1 M. White in the J. M. Hallmark Survey, Freestone County, moved in rig and is now rigging up to drill a Woodbine sand test. Clyde Creighton's No. 1 Holly Brothers in the A.B.M. Survey has been the only active test in this county. It is shut down waiting on pipe at 4,507 feet.

Petroleum Pipe Line Co.'s No. 1 S. S. McGee, in the William Daniels Survey, north of the Van Field, Van Zandt County, swabbed dry from the Nacatosh sand, showing but 1 bbl. of oil. Tubing has been pulled to swab the casing. Total depth is 1,571 feet. The test is not showing so good for a shallow producer from that sand, from which only one well is now producing, Peden and Olson's discovery well.

COMPLETIONS IN EAST TEXAS

North Gregg County

Gulf Production Co.'s No. 35 J. C. Judge, top sand 3,525 feet, initial production 110 bbls. per hour through open tubing, total depth 3,551 feet. Humble Oil & Refining Co.'s No. 15 T. M. Armstrong, top sand 3,540 feet, initial production 73 bbls. per hour through three-quarters inch tubing choke, total depth 3,569 feet.

Upshur County

Conservative Oil Co.'s No. 3 Eva O'Byrne, top sand 3,756 feet, initial production 45 bbls. per hour through 1-inch tubing choke, total depth 3,759 feet. Waggoner and McConnell's No. 4 Williams, top sand 3,618 feet, initial production 75 bbls. per hour through open tubing, total depth 3,630 feet.

South Gregg County

Gulf Production Co.'s No. 17 W. Holt, top sand 3,587 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,599 feet. Magnolia Petroleum Co.'s No. 4 L. Andrews, top sand 3,510 feet, initial production 170 bbls. per hour through open tubing, total depth 3,621 feet. J. C. Means, Jr.'s No. 5 W. P. Luce, top sand 3,542 feet, initial production 105 bbls. per hour through open tubing, total depth 3,561 feet. Sowell and others' No. 3 Luce, top sand 3,558 feet, initial production 90 bbls. per hour through open tubing, total depth 3,563 feet.

North Rusk County

Barnsdall Oil Co.'s No. 3 T. H. Gill, top sand 3,648 feet, initial production 70 bbls. per hour through three-quarters inch tubing choke, total depth 3,652 feet. Devonian Oil Co.'s No. 17 R. A. Motley, top sand 3,736 feet, initial production 76 bbls. per hour through open tubing, total depth 3,743 feet. Humble Oil & Refining Co.'s No. 71 L. D. Crim, top sand 3,661 feet, initial production 90 bbls. per hour through three-quarters inch tubing choke, total depth 3,672 feet; No. 18-A S. S. Laird, top sand 3,591 feet, initial production 56 bbls. per hour through three-quarters inch tubing choke, total depth 3,669 feet; No. 6-C H. Sexton, top sand 3,732 feet, initial production 110 bbls. per hour through three-quarters inch tubing choke, total depth 3,772 feet; No. 8-C H. Sexton, top sand 3,753 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,753 feet; No. 9 W. B. Key, top sand 3,734 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,740 feet; No. 4-B J. E. Sexton, top sand 3,711 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,758 feet; No. 16-A R. E. L. Silvey, top sand 3,714 feet, initial production 80 bbls. per hour through three-quarters inch tubing choke, total depth 3,775 feet; No. 17-A R. E. L. Silvey, top sand 3,693 feet, initial production estimated 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,755 feet; No. 12 A. L. Walker, top sand 3,630 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,650 feet; No. 8-B H. White, top sand 3,645 feet, initial production 40 bbls. per hour through open tubing, total depth 3,734 feet. Mid-Kansas Oil & Gas Co.'s No. 39 W. T. Grissom, top sand 3,665 feet, initial production 109 bbls. per hour through 2-inch lead line, total depth 3,671 feet; No. 6 J. M. Price, top sand 3,583 feet, initial production 49 bbls. per hour through 2-inch lead line, total depth 3,649 feet. Parks and others' No. 1 Frederick, top sand 3,566 feet, initial production 12 bbls. per hour pumping, total depth 3,700 feet. Stanolind and Pure Oil companies' No. 2 W. H. Siler, top sand 3,636 feet, initial production 40 bbls. of oil in 50 minutes through three-quarters inch tubing choke, total depth 3,648 feet. Sun Oil Co.'s No. 5 Alf Lee, top sand 3,690 feet, initial production 78 bbls. per hour through open tubing, total depth 3,692 feet. Ward Oil Co.'s No. 16 E. Thrash, top sand 3,750 feet, initial production 75 bbls. per hour through open tubing, total depth 3,802 feet.

Van Zandt County

J. C. Peter's No. 1 W. J. Brannon, top sand 1,242 feet, initial production 20 bbls. per day pumping, total depth 1,250 feet, M. Gross Survey. Pure Oil Co.'s No. 7 L. M. Brawner, initial production first 24 hours after choked for proration, 30 bbls. per day, total depth 2,960 feet.

East Central Texas Wildcats

Week Ending May 1

CHEROKEE COUNTY

Company, well, farm name, section and block—	Remarks
Hooper et al's No. 1 Doctor Overton, 330 ft. from N and E lines of tract and 330 ft. out of most easterly NE cor. of survey, Wesley Dikes Sur.	Tested salt water with air jammer; swabbing; T.D. 3,656 ft.
Wilson & Stubbs' No. 1 L. Robert, 450 ft. from S and 150 ft. from W line of lease, J. B. Wolfin Sur.	Prepare to deepen. T.D. [illegible]

FREESTONE COUNTY

Clyde Creighton's No. 1 Holley Bros., 554 ft. from W line and center of N and S lines of lease, A.B.M. Sur	T.D. 4,507 ft.
Sun Oil Co.'s No. 1 M. White, 150 ft. from S and E lines of M. White 40-ac. tract, J. M. Hallmark Sur.	Rig up.

GREGG COUNTY

Bay Oil Corp.'s No. 5 J. M. Wheeler, 150 ft. due N of Polphrey Bros.' No. 1 Wheeler, D. Ferguson Sur.	Derrick.
Barnsdall and Sun Oil Co.'s No. 10 Bingham, 330 ft. S of SE cor. of Arkansas' L. E. Orms lease, Castleberry Sur.	Waiting on cmt. to set; T.D. 3,506 ft.
Bond and Dillard's No. 5 D. Myers, 330 ft. from S line and 950 ft. from W line of survey, Carl Rhodes Sur.	Drlg. 2,703 ft.
E. & F. Oil Co.'s No. 2 M. Jackson, 330 ft. from S line and center of E and W lines of 16.66-ac. lease, G. F. Penn Sur.	Derrick.
Gulf Production Co.'s No. 5 S. G. Andrews, 1,319 ft. W and 535 ft. S of NE cor. of league and survey, W. P. Chisum Sur.	Drlg. 3,745 ft.
Ed Holdman's No. 1 Victor, 1,550 ft. from S line and 330 ft. from E line of survey, H. R. Hokit Sur.	T.D. 3,510 ft.
Humble Oil & Refining Co.'s No. 11 T. M. Armstrong, 500 ft. from S line and 1,320 ft. from E line of survey, L. J. Rigsby Sur.	Waiting on cmt. to set 3,561 ft.
Harry Lewis' No. 1 King, 130 ft. S of D. & H. Oil Co.'s No. 1 Howard, Scott Sur.	T.D. 3,206 ft.
W. R. Jones' No. 3 R. P. Doby, 150 ft. from N line and 330 ft. from W line of lease, M. Irwin Sur.	Rig up.
Lion Oil & Refining Co.'s No. 2 Evans, S offset to Sinclair Prairie's No. 10 Williams, P. McAnnelly Sur.	Derrick
C. H. Lyons' No. 1 W. Smith, 1,400 ft. from N line and 2,470 ft. from W line of survey, J. S. Carrithers Sur.	Drlg. 1,800 ft.
Magnolia Petroleum Co.'s No. 4 V. L. Goolsby, 318 ft. from N line and 372 ft. from W line of lease, G. R. Raine Sur.	Waiting on cmt. to set 3,531 ft.
Magnolia Petroleum Co.'s No. 7 I. Zeigler, 330 ft. from S line of lease and 660 ft. E of No. 3, B. N. Hampton Sur.	Derrick.
Ray Drilling Co.'s No. 2 Tubbs, 150 ft. from W line of lease in D. Sanchez Sur.	Waiting on standard rig; will not flow; T.D. 3,585 ft.
Sun Oil Co.'s No. 4-A Allen Tooke, 450 ft. from W line and 6,830 ft. from S line of survey, W. H. Castleberry Sur.	Rig up.

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There were 424 American refineries running on March 15, says OIL AND GAS JOURNAL, but only 198 of them had cracking units

No wonder there is grief in the oil business

If the other 226 operating refineries had Dubbs cracking units they would be making more and better gasoline—less and better fuel oil from a barrel of crude

Refiners would run less crude and more would stay in the ground

Crude prices and gasoline prices would both be better

Universal Oil Products Co
Chicago Illinois

Dubbs Cracking Process
Owner and Licensor

Proposal for Deciding Status of Patents on Refinery Distillation Equipment

Since the announcement of the formation of the Petroleum Distillation Corp. in August, 1932, by the Atlantic Refining Co., Foster Wheeler Corp., Standard Oil Development Co. and the Standard Oil Co. (New Jersey) for the purpose of clarifying the status of patents involving distillation equipment in refineries, several meetings have been held with other refining representatives for the purpose of formulating a definite proposal to the industry.

The discussions have followed along lines aiming to settle differences of opinion regarding the use of patented equipment outside of the courts. Under the present strain of adverse economic conditions within the refining industry, the corporation states it will endeavor to first effect an understanding through a proposal and the following provisions have been considered:

"As a first step there shall be submitted to arbitrators one question only:

"'Are the patent rights which P.D.C. has the power to license, of substantial value and importance to the petroleum industry in general?'

"This question, of course, includes all of the elements of patent value and importance—validity, scope, infringement.

"If the decision on this broad question be against P.D.C., it will forthwith dissolve, and the matter is at an end. If in favor of P.D.C., no specific patent or claim thereof will have been tested or applied, so far as the decision of the arbitrators goes, against any particular operation of any refiner, and no one will have been prejudiced or committed but it will be clear that P.D.C. must either proceed on the usual course of private handling of valuable patent rights or so much of the industry as is sufficiently interested must find, by co-operation with P.D.C. another solution. Any such solution involves so many separate controversies, financial, legal and technical, that it becomes physically impossible to arrive at it by arbitration of each separate question. A broader co-operative solution under which very little is left for arbitration seems possible, however.

"It is proposed that those who have joined in the settlement of the first point shall, if they desire to do so, next undertake a final settlement of the distillation patent question as between themselves on the following line:

Basis of Settlement

"The basis of the settlement is that each refiner shall take a full release for the past and a paid-up license for all future operations at a uniform annual rate for 17 years of 22.13 cents for each barrel of refiner's present (1932) listed daily crude running capacity in the United States.

"This royalty of 22.13 cents per year per barrel of installed daily crude running capacity has been computed as follows:

"The paid up royalty scale of P.D.C. for ordinary license agreements has been fixed at $10 per barrel of rated daily charging capacity of the licensed equipment, and it is expected that this rate will be maintained for all individually negotiated license contracts. However, in planning the suggested blanket co-operative arrangement it has been felt that the royalty should be based on installed daily crude running capacity rather than on the total capacity of distillation units employing any specific inventions, since under the proposed arrangement it is neither desirable nor feasible to inquire into the details of the past, present and future distillation operations of all of the units of the industry. Accordingly, the royalty rate has been set at $2.50 per barrel of installed daily crude running capacity.

"The life of a United States patent being 17 years, that term is adopted as appropriate for the payment of the royalty under this co-operative arrangement although the license itself, being under future as well as present patents, will be in effect for 25 years or more. The annual payments required (at 5 per cent interest compounded annually) to amortize a capital sum in 17 years is 8.85 per cent of the capital sum. The above mentioned royalty rate of 22.13 cents per barrel per year of installed daily crude running capacity is 8.85 per cent of $2.50.

"Provision is made for pro rata increase or decrease in annual payments to correspond with the refiner's established percentage of the country's installed daily crude running capacity. The result is that the royalty thus specified is in reality applied to the licensee's percentage of the total installed daily crude running capacity of the United States rather than to a specified rated daily charging capacity.

"A condition of each license is that the licensee grants to P.D.C. the right to cross-license under the licensee's present and future distillation patents. This will raise in some cases the question of whether the cross-licensing right under existing patent rights thus acquired by P.D.C. is in itself of such value that special consideration must be given to it. In any case in which such question may arise, P.D.C. is willing to consider the matter with the licensee, and if no agreement be reached, the matter will be arbitrated.

Arbitration Procedure

"The suggested arbitration procedure is as follows:

"If a licensee 'A' asserts that his existing patent rights on distillation are of substantial value and importance to the industry in general, there will be submitted to the arbitrators the following question:

"'What is the value of the rights acquired by P.D.C. from refiner under said license agreement of even date herewith, as compared with the value of all "distillation patent rights" held by P.D.C. (including those acquired from refiner, other refiners, or from any other source)?'

"If the percentage thus determined by the arbitrators should be just equal to licensee 'A's' percentage of the total listed crude running capacity of the United States, then licensee 'A' is giving through his cross-license as much in the way of patent values as he is receiving through his direct license and should, therefore, be relieved of all royalty. If his patent rights be of a real value which value is however less than his percentage of the listed crude running capacity of the United States, he should receive credit for the value actually determined against the royalties due. If his patent rights be of relative value greater than his percentage of the listed daily crude running capacity of the United States, he should not only receive a free license from P.D.C. but should in addition be compensated with an amount of the total stock of P.D.C. proportional to the excess value of his patent rights over his percentage of the listed daily crude running capacity. The principle of these provisions is applicable both where licensee 'A' is a single company and where it is a group of affiliated companies. The group, in such case, may be treated as a unit for the purposes of these provisions.

"The license will also provide that if the licensee be charged with infringement of any patent because of any fractional distillation operation, P.D.C. will, on notification, investigate the claim, and if P.D.C. shall decide that it involves a distillation patent question of general interest and importance to the refining industry, P.D.C. will (with the consent of its licensee) provide counsel and meet all legal expenses incident to the handling of the claim with a view to protecting the interests of all of its licensees.

"There is one further problem involved in a permanent settlement of the distillation patent question, that is, the patent relation between the equipment builders and the refining industry. The past conditions of confusion in the distillation patent field within the oil industry have led to the wholesale pirating of the inventions of the existing industry by newcomers. Due to the nature of his business the equipment builder has often been the intermediary through which this pirating has been carried out and made easy and efficient. On the other hand at least one and perhaps other equipment builders have made valuable contributions to the art and the existing oil industry has certainly in some instances appropriated these contributions without recognition or compensation. This situation was examined at the time of the organization of P.D.C. and Foster Wheeler Corp. became one of the organizers of the company under an agreement which met this problem.

Equipment Manufacturers

"It is proposed that if the present plan of arbitrated settlement be accepted by the oil industry, the Foster Wheeler Corp. will endeavor to bring the equipment building industry together into some suitable organization through which the patent relations between Foster Wheeler and P.D.C. will be extended to include the whole equipment industry and, failing this, will co-operate with other equipment builders separately to the same end.

"The purpose and result of the suggested plan above outlined is first to determine by arbitration whether there is any necessity for co-operative action on distillation patents and if there is not, to drop the whole matter. If there is necessity for action, to proceed by licensing so much of the existing industry as wishes to co-operate, on a flat basis so modest and so well averaged that its possible inequalities as between licensees are not important; as a part of the license to require cross-licensing under both present and future distillation patents; to liquidate out by agreement, and failing agreement, by arbitration of values all present patent rights of licensees which are acquired through the cross-licensing clause; to provide for the defense of all patent claims in the distillation field of general interest made against any licensee in the future; and finally to work out a fair distillation patent agreement between the oil industry collectively and the equipment builders collectively.

"Among the many features of fractional distillation which are patented and under which licenses can be granted by Petroleum Distillation Corp. are the following:

"1. Use of steam in pipe still operation for sidestream and bottoms stripping to yield several completely fractionated products from one bubble column.

"2. Low cost tubular heaters of large safe working capacity and high fuel efficiency.

"3. Methods and apparatus for increasing the capacity and efficiency of atmospheric and vacuum fractionating columns.

"4. Methods of obtaining efficient single flash distillation.

"5. Heat exchangers of high efficiency and flexibility as well as reliability in operation.

"Each company reserving to itself complete freedom of action under its own patents, joined in forming Petroleum Distillation Corp. and each conveyed to the corporation the nonexclusive right to grant licenses under all of its inventions in this field.

"The corporation is convinced that its inventions permit real savings and that the modern continuous units of today are properly and reasonably covered by its patents. The corporation believes that the patent advisors of the responsible companies in the industry will be in substantial agreement with it on the more important patents involved and that the refinery engineers of the industry will also be in substantial agreement as to the practical value of the inventions which the corporation is prepared to license."

Application for New Injunction Further Muddles Situation in East Texas

FORT WORTH, Tex., May 2.—Rowan and Nichols, of Fort Worth, have made application for an injunction against the Texas Railroad Commission to prevent it from enforcing the present proration order in East Texas. The case has been set for hearing before Judge James C. Wilson at Fort Worth on May 8. The complainants allege that the present order is merely a subterfuge to re-establish the old per well basis of proration previously held invalid by Federal courts. The increase in allowable production was also attacked in the bill.

On April 27, District Judge Charles A. Wheeler of Travis County, refused to grant a temporary injunction, sought by three East Texas land and royalty owners, to restrain the railroad commission from enforcing its East Texas order. The petition filed by O. M. Boren and R. W. Fair of Tyler, and Dr. A. S. Jarvis of Troup, alleged the commission has disregarded the market demand statute.

Federal Judge Randolph Bryant, of Tyler, has set May 8 for a hearing on an application filed by H. L. Hunt to restrain the commission from issuing any further orders in East Texas based entirely on the potential production of wells. Mr. Hunt avers that acreage should be given consideration in a proration order.

New Commission Bill Sent Back

At Austin the Holloway bill to create a natural resource commission for the administration of the oil and gas laws, now controlled by the railroad commission, passed by the House, was rereferred in the Senate to the committee of the whole by a vote of 17 to 14.

Prior to the vote, Governor Miriam A. Ferguson sent the legislature a message calling on the railroad commission to reduce the allowable production of the East Texas oil field and demanding that purchasers of oil immediately increase the price. The message, however, was not read until after the vote had been taken.

The motion to rerefer the bill after the Senate State Affairs Committee, by 8 to 6, had recommended that it pass, was offered as a substitute to a motion that the minority report of the committee, recommending that the bill not pass, be adopted instead of the majority report.

Governor's Message

The governor's message follows:

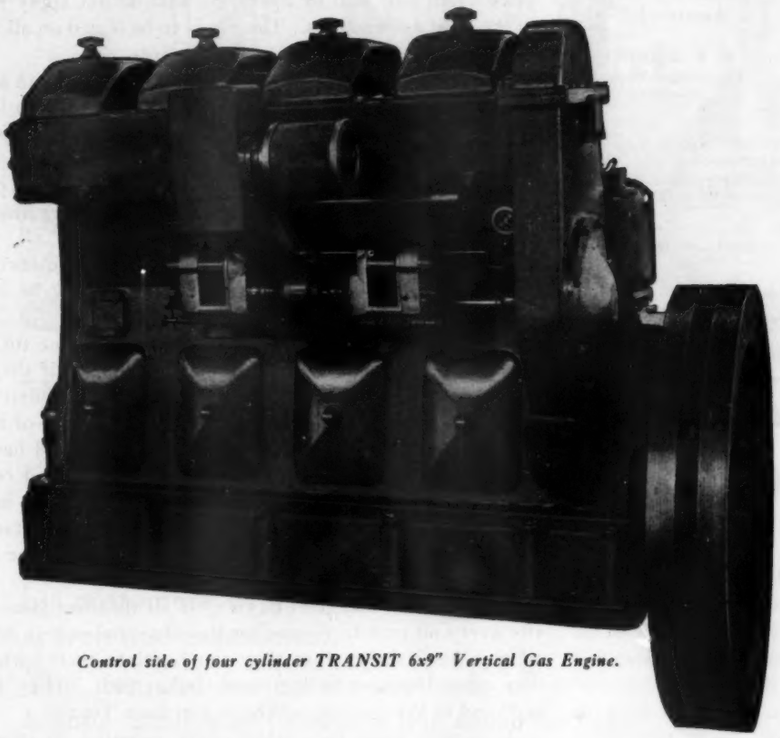
"The proration laws were passed for the primary purpose of controlling the production of petroleum in Texas so its waste might be prevented. To make sure that waste might not occur, the law was amended giving the railroad commission power to consider the market demand for oil in order that economic waste might not occur. The enforcement of the proration laws, passed for the conservation of one of our most important natural resources, appears for the moment, at least, to have failed of its purpose, and a very desperate situation has resulted.

"The honorable railroad commission, for reasons best known to itself, unexpectedly and without warning, has issued an order permitting 750,000 bbls. of oil to be produced daily in the East Texas Field. This runs the total state allowable permitted to be produced to 1,318,000 bbls. The nominations offered to purchase oil according to the best in-

(Continued on Page 46)

Announcing
The New TRANSIT
6x9" Vertical Four Cycle Gas Engine

A small engine designed in a big engine way, that fills the gap between the large slow speed engine and the small high speed engine.



Control side of four cylinder TRANSIT 6x9" Vertical Gas Engine.

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ALL MOVING PARTS ENCLOSED

OVERHEAD CAM SHAFT

CONVERTIBLE FROM GAS TO DIESEL POWER

OPERATES ON NATURAL OR REFINERY GAS

SIMPLICITY OF OPERATION

LOW MAINTENANCE COST

EASY STARTING

ECONOMY OF OPERATION

The TRANSIT Vertical Gas Engine was not hurriedly designed to meet competition, but is the result of years of study and research as to what type of engine would be best suited to cover a wide range of uses in its particular field of service.

It is a high quality engine that gives trouble-free operation with high economy in lubricating oil and fuel consumption, and an engine that is operated with low maintenance cost.

The new TRANSIT Vertical Gas Engine is a moderate speed engine for heavy duty service and long life, and can be furnished with two, three, four, or six cylinders ranging from 20 to 100 horsepower.

Write for Bulletin No. 430 for detailed information regarding this engine.

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The Oil and Gas Journal

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Something to Think About

The Governor of Texas has informed the Legislature that the recent order of the State Railroad Commission, permitting a production of crude oil in East Texas twice as large as the demand, was "one of the most ill-advised official actions there has been in many years" and was the direct cause of the present ten cent price of oil.

The House has already passed and the Senate Committee has approved a bill for the creation of a new commission to deal with oil and gas. Considering the record of commission orders it does not seem possible that any change could not be for the better.

Like the present price of oil in East Texas, which has gone so low that it does not seem possible for it to go any lower, regulation by the existing commission seems to have scraped bottom.

The resulting situation is intolerable. Each day it is prolonged means loss to Texas, to the oil industry, to the country at large by retarding business recovery through the continuance of depression in a great industry.

It is a question how long this will be allowed to continue before something drastic is done about it.

An administration at Washington determined to do everything possible to stabilize conditions has already taken charge of the banking business, and the agricultural business. It is now moving towards reorganization of the railroad business. Already the coal business is under observation. It may be oil next.

The case of the coal industry is very similar to that of the oil industry. Overproduction beyond conceivable market demand has brought the coal industry to the verge of bankruptcy. Conditions in the coal business had become so bad and were contributing so much to the general depression that the United States Supreme Court took cognizance of it.

Already the administration is reported to be preparing for action. Washington is said to be giving intensive study to a gigantic, nation-wide plan for the stabilization of the coal industry, involving fixing of minimum prices and the allocation of production quotas under a co-operative regulation by the industry itself supervised by a government agency.

A draft of the bill has been prepared and is being submitted by the Secretary of Labor to the Secretary of the Interior for suggestions, as well as to a number of coal operators.

It contemplates district coal conservation and protection associations in some 30 districts throughout the country. Above the district associations would be a national coal operators' council to be composed of one representative from each of the 30 districts and one representative for each 15,000,000 tons of the annual coal output of the district.

Above this council would be a court of coal conservation in the Department of the Interior of five members to supervise the entire plan and serve as a court of appeal.

The national council is to make a study of the probable demand for coal, foreign and domestic; make current these estimates and allocate the required production by districts; the district associations to prorate the production in each district.

The scheme is to be enforced by a tax of 20 per cent of the sale price of all coal sold by operators who do not apply for membership in the local associations. The tax is to be levied on all coal output but 99 per cent is to be remitted to members.

Each district board is to determine the weighted average cost of production under its jurisdiction. A price is then to be fixed of this average cost plus 25 cents a ton for bituminous and 50 cents for anthracite which becomes a minimum price at mines.

This coal industry plan, the Wall Street Journal points out, follows much the same approach as other plans emanating from the Roosevelt administration.

Whatever may be thought of the details or however they may be changed the proposal is significant of what may be in store for industries which fail to put their houses in order.

It ought to be convincingly evident by this time that a good many established notions are likely to be pushed aside if they appear to be in the way of restoring stability. Apparently no limit has yet been set to experimental action if it seems to offer hope of results.

Some of the things already accomplished would have seemed not so long ago even more startling than this reported coal plan. The justification for its being proposed is of course the inability of the coal industry to regulate itself. The oil industry stands in exactly the same position which, if not altered, may invite like action in dealing with its problems.

It may seem hopeless, in view of all that has gone before, to invite every oil man to reconsider the situation as it is developing. Yet, oil men have shown that they can regulate their own affairs when they come together in a give and take spirit. They did it at Seminole and in West Texas. Why not in East Texas?

It is only when they stand apart, insisting on immediate profit, obstinately refusing to listen to reason and substituting abuse for argument that the industry gets into such a mess as it is in now.

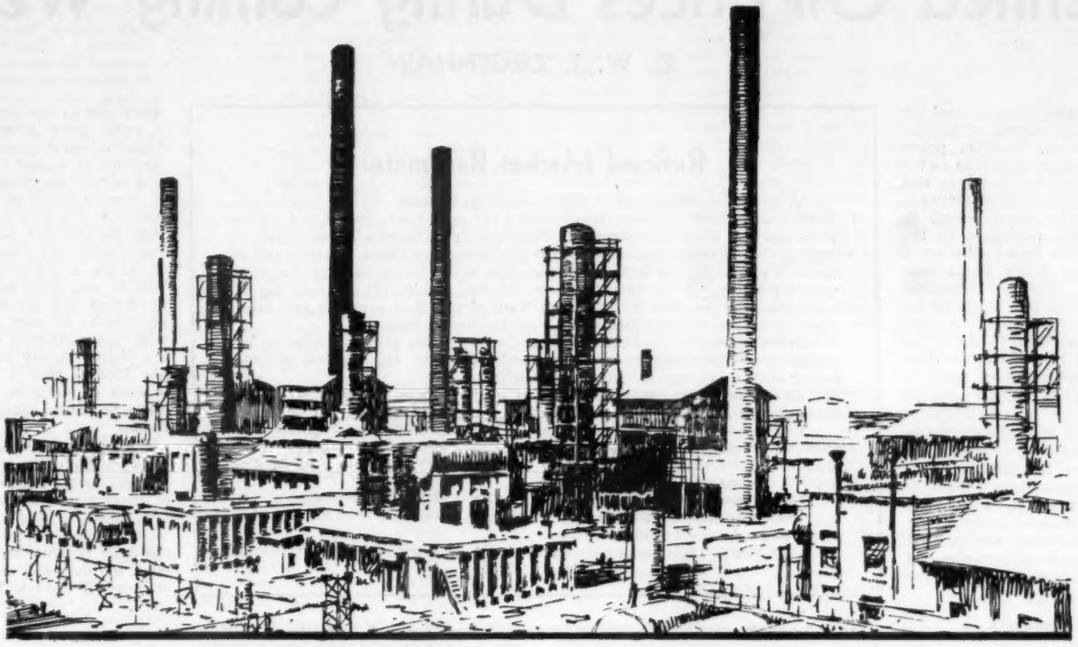
And to what purpose? Producing twice as much oil as can be sold at a fair price can mean only ten cent oil. And who is better able to weather a period of ten cent prices—the companies with large resources who have been strong for proration, or the little units which have been fighting proration and have least resources to tide over a period of bankrupt prices?

Seeing what is hanging over the coal business in a similar situation should cause sober second thought. If the men in the oil industry will not get together on a common program of mutual helpfulness they may have their heads knocked together by some such plan as is being proposed for the coal men.

A dispatch from Washington says that the extension of the President's dictatorial powers to include the oil industry has already been prepared by Mr. Roosevelt's advisers to be sent to the White House this week.

The feature of the bill would be the centering of regulatory powers in the secretary of the interior, including authority to fix a minimum price, "rather than leaving to the States the option of enforcing their own regulatory laws."

How would this strike the element which has been insisting on doing what it likes with its own regardless of the effect on everybody else?



The Kellogg Research Program has been Continuous

A refinery equipment manufacturer's usefulness to his customers depends among other things upon research and experience.

The demand for better methods of processing and higher quality of products has increased through the present difficult period in the oil industry. During this period, the M. W. Kellogg Company has continued its program of research, and has added to its experience by the building of many new units, both in this country and abroad.

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Texas Now Holds Key to Trend of Oklahoma Refined Oil Prices During Coming Week

By W. T. ZIEGENHAIN

Quiet routine trading characterized the Oklahoma (Group 3) refined oil market during the past week. Gasoline prices showed a slight tendency to decline as the week drew to a close but kerosene and distillates again showed seasonal strength. Natural gasoline sales were normal in volume but consistent purchases on the part of several refiners permitted a small price advance to be firmly maintained. A better sentiment prevailed regarding the neutral market as the result of an advance of one-half cent posted for similar grades in Pennsylvania. Bright stocks and cylinder stocks held firmly to their higher quotations posted a week ago.

The reduction in the posted price of crude in North Texas and West Texas by the Humble Oil & Refining Co. Tuesday certainly did not tend to strengthen the Oklahoma market, but this move was considered as somewhat of an expansion of the East Texas problem. The cut is expected to hasten a move on the part of the railroad commission and in that sense was interpreted as constructive and will not be damaging in effect on the local refining market.

East Texas Situation

The key to the Mid-Continent refined oil market lies in the course East Texas operations take over the immediate future. Only the strengthening of the crude market there can avert a weaker refined oil market throughout the Mid-Continent. A week ago the refined oil market had its house in order to permit a material price advance, more as the result of talk of inflation than an improvement in the demand for gasoline or any other products. This was to be followed by an advance in the crude market. Fanciful as this might seem now, the stage had been set in earnest anticipation. Instead, The Texas Company announced a price of 10 cents a barrel for East Texas crude and other major buyers soon adopted this price. At the time this move was interpreted as constructive and was expected to be of short duration. In the week that has passed, there has been no shortage of crude in East Texas because of producers shutting in their wells rather than sell their oil at the posted price. A group of small operators have agreed to shut in their wells but the movement in this direction is slow. Approximately 700 wells were shut down within four days of the price posting but in the following three days the number had grown to only about 900 wells and some of the owners of these were said to be growing nervous and were planning to reopen their properties. The production from the East Texas Field was estimated in excess of 800,000 bbls. daily in spite of these idle wells and this continues to be considerably in excess of demands from refiners to supply current needs. Those refining companies that have pipe line and storage facilities have been taking all low priced oil offered and "outsiders" who wish to take advantage of the low posted price have not found oil as freely offered or facilities available to handle it as might be expected from a statement of the price alone. This is taken as further evidence that existing conditions in the East Texas Field will be modified at an early date.

On Monday Governor Ferguson issued a statement calling for a modification of the present Texas Railroad Commission order and at the same time "demanded" a crude price advance. Action in this direction could come at any time by the issuance of a new order by the commission but if the present order is allowed to operate until it was designed to be replaced, it will continue in effect until May 10. On that date many students of the market say there will be a change in which a lower allowable production will be set. How drastic the order will be or how well any order will be enforced remains to be seen and those connected with the marketing of refinery products are simply sitting on the side lines and are hopeful that a change will not be delayed too long or gasoline prices will likely be shaded throughout the Mid-Continent.

The possibility of such a move is strengthened by the fact that East Texas refiners have adopted a high schedule of crude runs and the export orders that took much of their gasoline production for the past week will soon be filled and the daily production will again be forced upon the domestic market. This effect is expected to be felt by the close of the week.

Effect of "Q" Brand Ethyl

In the past week the Ethyl Gasoline Corp. announced a reduction in the price of ethyl lead of approximately 12 per cent which makes the use of this material as a means of raising the antiknock value of its motor fuel more attractive. With the Standard Oil Co. of New Jersey expected to announce a second grade of Ethyl Gasoline, June 1, it seemed almost certain that other important refiners would adopt the second grade Ethyl as their regular grade and there is no question but that smaller refiners who are not so favorably equipped with reforming units and other cracking facilities look with favor toward the idea. If

Refined Market Barometer

A mixed interpretation of basic conditions accounts for the lack of uniformity in refined oil price trends during the past week. East Coast buyers were marking time, sentiment has improved in California as the result of posting high filling station prices for gasoline, Gulf Coast markets are all lower, Chicago buyers talked of a possible reduction in the gasoline tank wagon price and in the Mid-Continent refiners and buyers are awaiting developments in the East Texas Field. Natural gasoline, kerosene and lubricants were the only products that were uniformly firm.

Mid-Continent—Gasoline unchanged except that price shading in low octane grade becoming more pronounced. Kerosene and natural gasoline strong with no change in balance of products.

East Coast—Except for an advance in wax prices the market was unchanged and inactive.

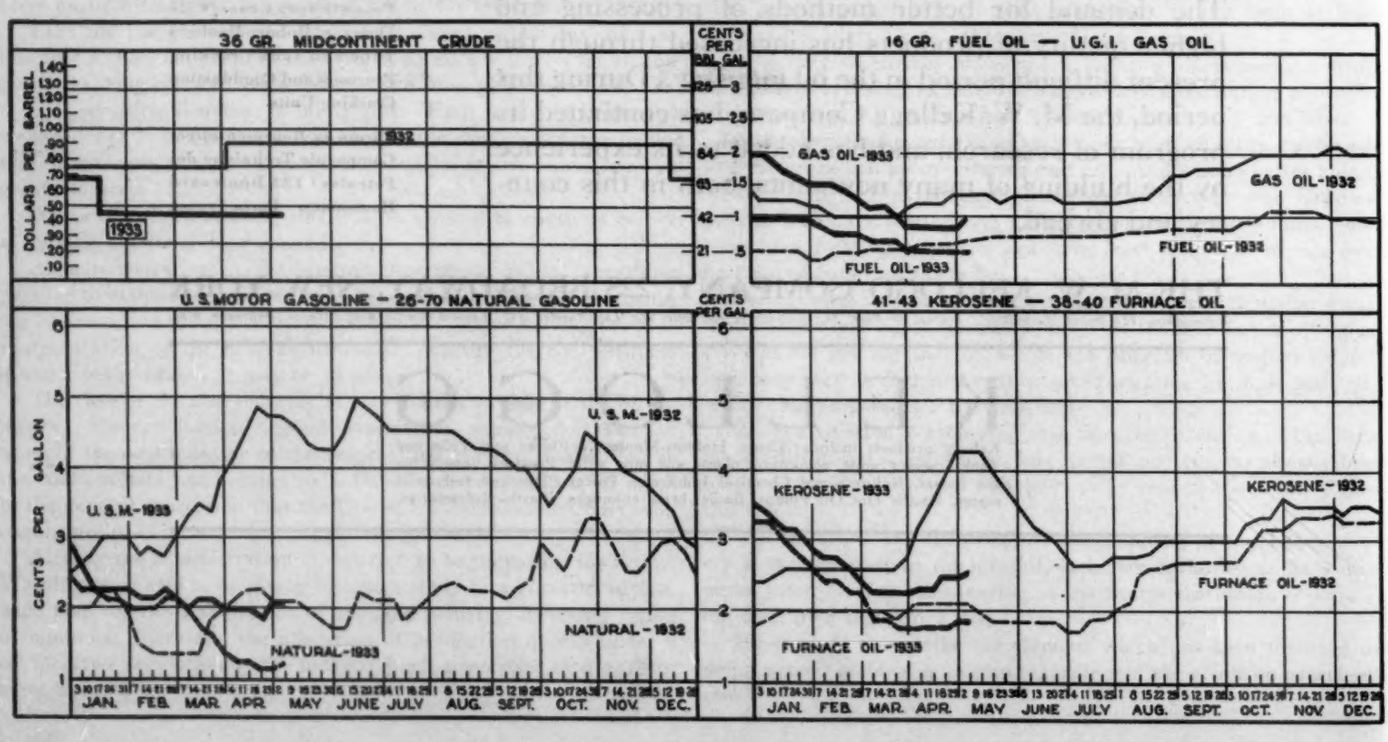
Chicago—Lower retail prices on kerosene and distillates posted this week by the Standard Oil Co. of Indiana dampened the sales volume of all products and although no important price change was made, the market implied weakness.

California—Gasoline advanced with balance of market unchanged.

Pennsylvania—Gasoline stronger with price advances posted for kerosene, heavy neutrals and bright stocks.

Gulf Coast—All prices reduced as result of new crude price postings.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



this second grade of leaded gasoline replaces the present gasolines it will mean a volume increase in the production of many refineries. Those plants that have been producing 65 to 70 octane gasoline by reforming, will, if they adopt the use of Ethyl fluid, find it advisable in most instances to produce a lower octane motor fuel as a base to which the Ethyl fluid will be added to make a blend of the same or even higher octane value. Because the base fuel will be produced under less severe conditions of temperature there will be volume increase in the quantity produced. Also, this gradual movement toward reducing endpoint to gain octane value will be reversed, especially with any weakening of kerosene quotations which have been maintained at an abnormally high relative level for months. The net effect of using Ethyl fluid may easily be to add from 2 to 5 per cent gasoline to the yield from crude. So, if full advantage is taken of the use of lead the volume of gasoline to be sold will be increased from 5 to 10 per cent. Seemingly quite revolutionary from the trend over the past four years, it promises to be a factor which must be considered in forecasting market trends over the future.

Gasoline

The larger refiners in Oklahoma held their low octane motor fuel for a minimum price of 2⅛ cents which was the same as a week ago. They were forced to pass up some business to East Texas refiners who were offering small lots at 1¾ to 2 cents for resale. To this extent the gasoline market assumed an unfavorable position and there was promise of this effect dragging all quotations lower unless a quick change in basic conditions was effected. The low endpoint gasolines of high gravity acted in the opposite direction and prices were slightly higher. The 375 endpoint and the 68-70 350 endpoint products each advanced one-eighth cent above last week's price.

Naphthas displayed no willingness to move from last week's price level in either direction. The demand continued a little above normal due to delayed planting as larger quantities were consumed as tractor fuel.

Kerosene

Kerosene prices advanced one-eighth cent in the past week and established a market level for that commodity from one-half cent to three-quarters cent above that of gasoline. The resumption of the use of tractors to plow fields that have been recently made heavy by rains is said to account for much of this prolonged abnormal demand. The better price received for kerosene than gasoline also reflects the more removed position the former market from East Texas influences. The East Texas refiners definitely entered all Mid-Continent gasoline markets but they have not played so important a role in the kerosene markets to date. This has been due to the more specialized nature of that market and also because not many of the plants in the East Texas Field are equipped to treat kerosene to the desired sweetness, color stability or sulphur content. As the week closed the 41-43 grade of kerosene was tightly held at 2⅝ cents at all Oklahoma plants and 2¾ cents was a common price among the larger manufacturers.

Natural Gasoline

All grades of natural gasoline strengthened during the week as the result of daily purchases of any excess material offered on the spot market. There were no unusual rush orders for delivery on part of refiners or exporters receiving on contracts but the volume thus taken was sufficient to absorb production. The 26-70 grade was advanced to 1⅝ cents and was firm at that figure. The other grades acted in sympathy.

Over the immediate future the trend of the market was clouded by the fact some additional production will result in the Oklahoma City Field as the result of opening up wells in that area effective Tuesday. Some additional material may come from West Texas plants because of the passing of a law permitting the Panhandle field to produce up to 25 per cent of its potential daily gas supply. The bulk of this increase began to be felt a month ago when developments pointed to passage of the law, but there will continue to be some increase until all wells are hooked up to plants. The increase would be most pronounced if natural prices should advance to where it would pay to build additional plants.

Furnace Oils and Distillates

Furnace oil prices and distillate prices did not share in the strength evidenced by the kerosene market. Instead, prices were unchanged and there was a greater willingness to meet unusual requests regarding specifications, early shipping dates, etc., indicating pending weakness. The reduction late Monday in the retail kerosene and distillate quotations did not help the appearance of the furnace oil market.

Fuel Oils and Gas Oils

The coming of warmer weather is permitting industrial plants to use fuel oils of higher cold test and because the heavy, high cold test fuels are available at such low prices in all refining centers, the effect has been to weaken the entire fuel oil market. Refiners were able to hold prices on all grades, however, except the 24-26 gravity and 22-26 gravity.

Contrary to the market action of the high gravity fuels, gas oils advanced to 1-cent minimum for the U.G.I. grade.

Lubricants and Wax

Neutrals and bright stocks were firm at last week's price levels but there was no more than a normal demand for these products. The benefits derived from advances made by Pennsylvania refiners in the past week gave the lubricating oil market a stronger tone in Oklahoma despite a strong demand.

Wax prices were unchanged but there is no apparent willingness to make commitments over a long period in the future as was the case in past months.

Expansion of Marketing Facilities Now Replaces Gallonage and Ruins Price

The Standard Oil Co. of California has made a statement regarding its marketing practices that is decidedly constructive and could serve as a basis for expecting a return of profits in oil marketing should its adoption become general. The announcement follows:

Recovery of American business can be accomplished only by the elimination of the insane, price-cutting and profitless state of competition which prevails in practically every line of selling. Because of reduced buying power, and overproduction of commodities, competition for such business as exists has been carried to great extremes. The mad struggle for volume has led to ruinous practices—sales at cost and less than cost, development of unneeded new sales outlets and expansion of old, duplication and reduplication of marketing facilities, often in the very face of a declining public demand for products.

At the moment, America may be at the threshhold of recovery, at the beginning of the end of the depression. But recovery is impossible, and the depression is impervious, if American manufacturers and merchants continue the uneconomic practices which have contributed so much to demoralization—which have wiped out earnings, eliminated dividends, reduced salaries, added to unemployment, to the general detriment of every man, woman and child in the country.

These unfortunate conditions prevail nowhere to a greater extent than in the oil industry.

In the face of continuing overproduction on the one hand and declining demand on the other hand, the Standard Oil Co. of California has determined that its marketing policy should be directed toward maintaining its present percentage of business, rather than toward increasing it. The company realizes that the struggle for outlets results in demoralization of market conditions. It considers that the present is no time for any unit in the industry to seek an increase in volume of business which can be obtained only by the loss of an equivalent volume of business of a competing unit. In other words, the normal conditions under which new business can be developed and new outlets obtained do not exist. In practically every instance in the shrinking markets of today, a company can obtain new business only by taking old business from a competitor.

Recognizing conditions as they are, and desiring to take some step to bring order out of chaos, this company has decided:

That it will continue the policy announced in 1930 of not selling to price cutters.

That it will not add to its present sales outlets either by construction of new stations (existing commitments excepted), or by attempting to acquire stations now supplied by its competitors.

That it will not seek to increase its percentage of that business at the expense of competitors.

That its sales policy will be directed toward the retention and protection of its present position.

These sales policies will be continued so long as competitive conditions make them possible, or until normal conditions return.

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

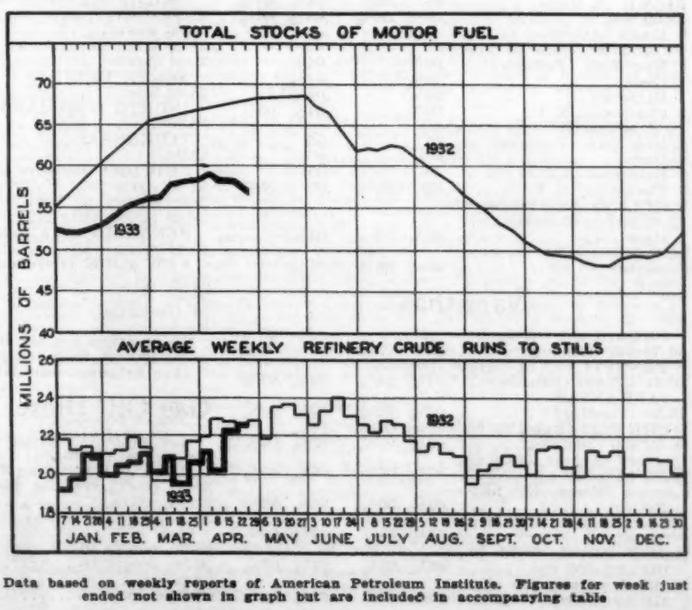
Week Ending April 29, 1933, Compared to Week Ago

	Week ending April 29, 1933				Week ending April 22, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	480,000	16,414,000	6,069,000	99.1	484,000	16,292,000	6,169,000
Appalachian	95.0	82,000	2,038,000	839,000	95.0	89,000	2,068,000	847,000
Ind., Ill., Ky.	97.5	294,000	8,314,000	3,596,000	97.5	295,000	8,422,000	3,550,000
Okla., Kans., Mo.	84.9	217,000	5,196,000	3,097,000	84.9	220,000	5,451,000	3,036,000
Inland Texas	56.4	72,000	1,683,000	2,103,000	56.4	81,000	1,763,000	2,117,000
Tex. Gulf	97.7	442,000	5,714,000	6,072,000	97.7	448,000	5,504,000	5,896,000
La. Gulf	97.3	94,000	1,485,000	1,943,000	97.3	100,000	1,527,000	2,034,000
N. La. and Ark.	88.5	36,000	309,000	607,000	88.5	42,000	337,000	637,000
Rocky Mtn.	90.8	30,000	1,408,000	635,000	90.8	34,000	1,458,000	645,000
California	94.6	434,000	14,353,000	98,296,000	94.6	414,000	14,327,000	97,783,000
Total U. S.	91.6	2,181,000	56,914,000	123,257,000	91.6	2,207,000	57,351,000	122,654,000

Total motor fuel stocks, Bureau of Mines basis, 58,220,000 bbls.

Week Ending April 29, 1933, Compared to Year Ago

	Week ending April 29, 1932				Week ending April 30, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	99.1	480,000	16,414,000	6,069,000	100.0	443,400	7,367,000	5,743,000
Appalachian	95.0	82,000	2,038,000	839,000	91.8	108,700	1,819,000	1,137,000
Ind., Ill., Ky.	97.5	294,000	8,314,000	3,596,000	98.9	310,200	6,515,000	4,031,000
Okla., Kans., Mo.	84.9	217,000	5,196,000	3,097,000	89.6	233,400	3,764,000	3,215,000
Inland Texas	56.4	72,000	1,683,000	2,103,000	....	99,400	1,555,000	2,782,000
Tex. Gulf	97.7	442,000	5,714,000	6,072,000	99.8	436,600	6,596,000	5,819,000
La. Gulf	97.3	94,000	1,485,000	1,943,000	100.0	110,000	1,853,000	3,849,000
N. La. and Ark.	88.5	36,000	309,000	607,000	....	41,300	144,000	689,000
Rocky Mtn.	90.8	30,000	1,408,000	635,000	39.4	45,300	2,021,000	622,000
California	94.6	434,000	14,353,000	98,296,000	86.7	452,400	14,769,000	96,024,000
Total U. S.	91.6	2,181,000	56,914,000	123,257,000	95.1	2,280,700	46,403,000	123,911,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils, which became effective June 21, 1932.

Refinery Gasolines

OKLAHOMA (Group 3)—	May 2		Apr. 25	
*U. S. Motor grades:				
Regular	.02¼	.02½	.02¼	.02½
Premium	.02½	.02⅝	.02½	.02⅝
Third grade	.02⅛	.02¼	.02⅛	.02¼
60-62 400 grades:				
Regular	.02⅜	.02½	.02⅜	.02½
Premium	.02⅝		.02⅝	
Third grade	.02¼		.02¼	
64-66 390	.02¼		.02¼	
64-66 375	.02⅝	.02¾	.02½	
68-70 350	.02⅝	.02⅞	.02½	.02¾
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.02¼	.02½	.02¼	.02½
Premium	.02½	.02⅝	.02½	.02⅝
Third grade	.02	.02¼	.02	.02¼
60-62 400	.02¼	.02¼	.02¼	.02¼
64-66 390	.02¼		.02¼	
64-66 375	.02⅜	.02½	.02⅜	.02½
64-66 360	.02½	.02¾	.02½	.02¾
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.02¾		.02¾	
Premium	.03		.03	
Third grade	.02½	.02⅝	.02½	.02⅝
60-62 400	.02⅝	.02¾	.02⅝	.02¾
†ARKANSAS—				
U. S. Motor grades:				
Regular	.02⅝		.02⅝	
Premium	.03		.03	
Third grade	.02½	.02⅝	.02½	.02⅝
CHICAGO (Based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.02⅛	.02⅜	.02⅛	.02⅜
Premium	.02⅜	.02⅝	.02⅜	.02⅝
Third grade	.02	.02⅛	.02	.02⅛
60-62 400	.02	.02⅛	.02	.02⅛
64-66 375	.02⅜	.02⅝	.02⅜	.02⅝
68-70 360	.02⅝	.02⅞	.02⅝	.02⅞
Aviation fighting grade	.03	.03¼	.03	.03¼

*Octane Ratings—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular, 57-65 octane number; premium, above 65 octane number; third grade, below 57 octane number.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.04⅝	.04¾	.04⅝	.04⅞
60-62 400	.04⅞		.04¾	
64-66 375	.05		.04	.05⅛
68-70 350	.05¼	.05⅜	.05⅛	.05¼
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.05	.06	.04⅞	.05¾
58-60 400	.05¾	.06¾	.05½	.06½
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.04¾		.04¾	
Boston	.04¾		.04¾	
Baltimore	.04¾		.04¾	
Charleston, S. C.	.04¾		.04¾	.05¼
U. S. Motor, 65 octane and above:				
New York (Bayonne)	.05		.05	
Boston	.05		.05	
Baltimore, Md.	.05		.05	
Charleston, S. C.	.05	.05¾	.05	.05¾
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.03⅞	.04	.04¼	
U. S. Motor, below 65 octane number	.03½	.03¾	.03¾	.04

Naphthas

OKLAHOMA (Group 3)—	May 2		Apr. 25	
50-52 450 (blending)	.02	.02½	.02	.02½
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.04¼	.04⅜	.04¼	.04⅜
†ARKANSAS—				
48-50 (blending)	.02¼	.02½	.02¼	.02½
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.02⅛	.02⅜	.02⅛	.02⅜
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.05¼	.05½	.05¼	.05½
Lacquer diluent, 180 i.b.p.-250 e.p.	.06½	.06¾	.06½	.06¾
Lacquer diluent, 140 i.b.p.-200 e.p.	.07½	.08	.07½	.08
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05¼	.05½	.05¼	.05½
Stoddard solvent, 300 i.b.p.-410 e.p., over 100° flash	.04¾	.05	.04¾	.05
Pet. thinner, 290, 300 i.b.p.-415 e.p., over 83° flash	.04	.04¼	.04	.04¼
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05	.05¼	.05	.05¼
Petroleum spirits	.03⅞	.04	.03⅞	.04

Natural Gasolines

OKLAHOMA (Group 3)—	May 2		Apr. 25	
Grade 18-55	.01½	.01¾	.01½	.01⅝
Grade 26-70	.01⅝		.01¼	
Grade 30-70	.01⅛	.01¼	.01⅛	
*Low pressure grades:				
15 lb. v.p. (max.)	.01¾	.02	.01¾	.02
11 lb. v.p. (max.)	.02⅛	.02¼	.02⅛	.02¼
NORTH TEXAS—				
Grade 18-55	.01½		.01½	
Grade 26-70	.01½	.01¼	.01½	
Grade 30-70	.01⅛		.01⅛	
*Low vapor pressure grades:				
15 lb. v.p. (max.)	.01¾	.02	.01¾	.02
11 lb. v.p. (max.)	.02⅛	.02¼	.02⅛	.02¼
NORTH LOUISIANA—				
Grade 26-70	.01⅜		.01⅜	
CALIFORNIA—				
75-78 375	.03½	.04	.03½	.04

Kerosenes

(All kerosenes water white)

OKLAHOMA (Group 3)—	May 2		Apr. 25	
41-43	.02⅝	.02¾	.02½	.02⅝
42-44	.02¾	.02⅞	.02⅝	.02¾
NORTH TEXAS—				
40-41	.02¼	.02⅜	.02¼	
41-43	.02⅝	.02½	.02⅝	
†NORTH LOUISIANA—				
41-43	.02¾		.02¾	
42-44	.03		.03	
†ARKANSAS—				
41-43	.02¾		.02¾	
PENNSYLVANIA (inland refineries)—				
45	.04¼	.04½	.04⅜	.04⅝
46	.04½		.04⅝	.04¾
47	.04¾		.04⅝	.04⅞
CHICAGO (Based on Oklahoma Group 3)—				
41-43	.02⅝	.02⅞	.02⅝	.02¾
42-44	.02¾	.03	.02¾	.02⅞
*CALIFORNIA—				
38-40 high burning test	.03½	.04¼	.03½	.04¼
NEW YORK (Bayonne, N. J.)—				
41-43	.05¼		.05¼	
GULF COAST (domestic)—				
41-43 water white	.03¾	.04	.03¾	.04

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

OKLAHOMA (Group 3)—	May 2		Apr. 25	
32-36 straw	.01¾	.01⅞	.01¾	.01⅞
36-38 straw	.01⅞		.01⅞	
38-40 straw	.01⅞	.02	.01⅞	.02
39-41 prime	.02		.02	
NORTH TEXAS—				
38-40 straw	.01¾	.02	.01¾	.02
†NORTH LOUISIANA—				
36-40	.02½	.02¾	.02½	.02¾
†ARKANSAS—				
32-36	.02½	.02⅝	.02½	.02⅝
CHICAGO (Based on Oklahoma Group 3)—				
32-36 straw	.01¾	.01⅞	.01¾	.01⅞
38-40 straw	.01⅞	.02	.01⅞	.02
38-40 prime white	.01⅞	.02⅛	.01⅞	.02⅛
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¼	.03½	.03¼	.03½
NEW YORK (Bayonne, N. J.)—				
32-36	.04		.04	
36-40	.05		.05	
21 (industrial)	.03½		.03½	

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

OKLAHOMA (Group 3)—	May 2		Apr. 25	
32-36 (G.O.) cracking stock	.01		.00⅞	.01
U.G.I. (G.O.)	.01	.01⅛	.00⅞	.01⅛
32-36 zero to 15 (G.O.) high flash	.01¼	.01⅜	.01¼	.01⅜
28-30, zero to 10	.60	.65	.60	.65
26-30, zero to 10	.50	.60	.50	.60
24-26	.35	.40	.35	.40
20-22	.32½		.32½	
Below 16	.30	.32½	.30	.32½
NORTH TEXAS—				
32-36 (G.O.) industrial	.00⅞	.01	.00⅞	.01
22-26	.35	.40	.35	.40
Below 20	.30		.30	
†NORTH LOUISIANA—				
32-36 (G.O.) zero	.02½		.02½	
14-16	.30	.35	.30	.35
†ARKANSAS—				
30-32 (G.O.) zero	.02¼	.02½	.02¼	.02½
14-16	.30	.35	.30	.35
CHICAGO (Based on Oklahoma Group 3)—				
32-36 (G.O.) industrial	.01	.01⅛	.01	.01⅛
28-30 (zero)	.70	.75	.70	.75
26-28 (zero)	.60	.65	.60	.70
22-26 (zero)	.50	.55	.50	.60
18-22 (zero)	.40	.45	.40	.45
Below 18	.30	.40	.30	.40
PENNSYLVANIA (inland refineries)—				
36-40	.03¼	.03⅜	.03¼	.03½

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

CALIFORNIA—				
30-34 (G.O.) per bbl.	.80	.90	.80	.90
27 plus Diesel	.80	.90	.80	.90
15-19 bunker (at tidewater)	.50	.60	.50	.60
15-19 (cargo lots)	.45	.55	.45	.55
15-19 (tanks cars)	.35	.50	.35	.50
GULF COAST—				
28-30 (G.O.)	.02⅝	.02⅞	.02¾	.03
28-30 Diesel	1.50		1.50	
Bunker C (bulk cargoes)	.57½	.60	.55	.57½
Bunker C (bunkers)	.70		.60	.70
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.65		1.65	
26-30 Diesel (tank cars)	.04		.04	
‡Bunker C	.70	.75	.70	.75

*Lighterage 6½ cents per barrel.

†Lighterage 5 cents per barrel.

‡Contract price at New York harbor to ocean-going steamships only.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	4.50	4.50
Still runs	5.50	5.50
Lump and egg	6.50	6.50

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

OKLAHOMA (Group 3)—	May 2		Apr. 25	
Zero to 10 Cold Test:				
150-3	.06¼	.06½	.06¼	.06½
180-3	.07¼	.07½	.07¼	.07½
180-4	.07¼	.07½	.07¼	.07½
200-3	.08	.08¼	.08	.08¼
200-4	.07¾	.08	.07¾	.08
240-3	.10	.10¼	.10	.10¼
240-4	.09¾	.10	.09¾	.10
280-3	.11	.11¼	.11	.11¼
280-4	.10½	.10¾	.10½	.10¾
300-3½	.11¼	.11½	.11¼	.11½
350-3½	.11¾	.12	.11¾	.12
400-4	.12¼	.12½	.12¼	.12½
500-4½	.12¾	.13	.12¾	.13
100-2 paraffin oil	.04¼	.04½	.04¼	.04½
15-30 Cold Test:				
200-3	.07¼	.07½	.07¼	.07½
200-4	.07	.07¼	.07	.07¼
240-3	.09¼	.09½	.09¼	.09½
240-4	.09	.09¼	.09	.09¼
280-3	.10¼	.10½	.10¼	.10½
280-4	.10	.10¼	.10	.10¼
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.15	.15¼	.14½	.15
10 pour test	.14½	.15	.14	.14½
15 pour test	.13	.13¼	.12½	.13
25 pour test	.12½	.12¾	.12	.12½
180 vis., No. 3, 25 pour test	.14¼	.14¾	.12¾	.13
200 vis., No. 3:				
Zero pour test	.18		.17½	.18
10 pour test	.17		.16¾	.17
15 pour test	.16		.15½	.15¾
25 pour test	.15¼	.15½	.15	.15½
GULF COAST—				
Pale Oils:				
100-2-2½	.04¾	.05¼	.05¼	.05½
200-3	.05½	.06½	.06½	
300-3	.06¾	.07¼	.07¼	.07½

500-3½	.08¾	.09¼	.09¼	.09½
750-3½	.09¾	.10¼	.10¼	.10½
1,200-3½	.12	.12¼	.12½	
2,000-4	.13	.13¾	.13½	.14
Red Oils:				
200-5-6	.05	.05½	.05¼	.05½
300-5-6	.06	.06½	.06½	.06¾
500-5-6	.07	.07½	.07½	.07¾
1,200-5-6	.10¼	.10¾	.10½	.11
2,000-6 plus	.12	.12½	.12¼	.12½
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.10	.09	.10
200-2½-3	.10	.11	.10	.11
300-3-3½	.11	.11½	.11	.11½
350-3-4	.11½	.11¾	.11½	.11¾
400-3-4	.11¾	.12	.11¾	.12
450-3-4	.12	.12¼	.12	.12¼
550-3-4	.12¼	.12¾	.12¼	.12¾
Red Oils:				
200-4-5	.08¾	.09¾	.08¾	.09¾
300-5-6	.10	.10½	.10	.10½
350-5-6	.10½	.11	.10½	.11
400-5-6	.11	.11½	.11	.11½
450-5-6	.11½	.11¾	.11½	.11¾
500-5-6	.11¾	.12	.11¾	.12
600-5-6½	.12	.12¼	.12	.12¼
700-6½ plus	.12¼	.12½	.12¼	.12½
750-6½ plus	.12½	.12¾	.12½	.12¾
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	May 2		Apr. 25	
630 light green	.05½	.07	.05½	.07
600 light green S.R.	.05	.06	.05	.06
600 dark green S.R.	.03½	.04½	.03½	.04½
Bright Stocks:				
190-200 D	.16½	.17½	.16½	.17½
150-160 D, 0-10	.14¾	.15¼	.14¾	.15¼
150-160 D, 10-25	.14¼	.14½	.14¼	.14½
150-160 D, 25-40	.13¾	.14	.13¾	.14
150-160 E	.13½		.13½	
PENNSYLVANIA—				
600 S.R.	.08½	.09½	.08¾	.09
650 S.R.	.11	.12	.11¼	.12
600 Pennsylvania flash	.12½	.13½	.12½	.13½
630 D filtered	.17½	.18½	.17¾	.18½
600 E filtered	.13½	.14½	.13½	.14
Pennsylvania Grade bright stock:				
Bright Stock, No. 8 color, 145-50 vis.				
210-540-550 flash:				
10 pour test	.22		.21	.21½
15 pour test	.20		.19	.19½
25 pour test	.19		.18	.18½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	May 2		Apr. 25	
124-126 white crude scale	.01⅝	.01¾	.01⅝	.01¾
PENNSYLVANIA—				
122-124	.02	.02⅛	.02	
124-126	.02⅛		.02⅛	.02¼
NEW YORK (Bayonne, N. J.)—				
120-122 (a.m.p. basis)	.02⅞		.02⅝	
125-127	.02⅞		.02⅞	
130-132	.03¼		.03¼	
133-135	.04⅛		.04⅛	
135-137	.04¼		.04¼	
CHICAGO (f.o.b. switching district)*—				
122-124	.0330	.0340	.0330	.0340
125-127	.0355	.0365	.0355	.0365
127-129	.0370	.0380	.0370	.0380
130-132	.0430	.0440	.0430	.0440
132-134	.0455	.0465	.0455	.0465

*Cents per pound on carlot orders in cotton lined burlap bags of 225 lbs. approx.
Add 3° F. for a.m.p.

NEW YORK—		
Petrolatum in barrels in carload lots:		
Dark green	.01⅞	.01⅞
Amber	.02	.02
Extra amber	.02⅜	.02⅜
Lily white	.05½	.05½
Snow white	.06½	.06½
Cream	.04½	.04½

Export Prices

GASOLINE

GULF COAST—	May. 2		Apr. 24	
U. S. Motor	.03¼	.03⅜	.03¼	.03⅜
60-62 400	.03⅝		.03⅝	
61-63 390	.03⅝		.03⅝	
64-66 375	.03⅞	.03¾	.03⅞	.03¾
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.03¾	.04¼	.03¾	.04¼
U. S. Motor, 65 octane	.04½	.04¾	.04½	.04¾
U. S. Motor, 67 octane	.05		.05	
U. S. Motor, 69 octane	.05¼		.05¼	
58-60 400 endpoint gasoline	.04¼	.05	.04¼	.05

KEROSENE

GULF COAST—				
41-43 prime white	.03⅞	.04	.04	
41 water white	.04	.04⅛	.04⅛	.04¼
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼

LUBRICANTS

NEW YORK, (f.a.s. in bbls.)—		
600 Warren E	.18½	.18½
600 S.R. unfiltered	.14½	.14½
650 S.R. unfiltered	.17	.17
600 flash S.R.	.17¾	.17¾
630 flash S.R.	.23	.23
Bright stock, No. 8 color	.24½	.24½
Bright stock, No. 6½ color, dil.	.23½	.23½

NEUTRALS

NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—		
230-3¾	.09¾	.09¾
180-3½	.09½	.09½
100-2¼	.05	.05
Red Engine Oil, Bulk (vis. at 100):		
300-6½	.09½	.09½
250-6	.08½	.08½
200-6	.07¾	.07¾

Crude Oil Prices

Oklahoma, Kansas, North and East Central Texas

Ranger, Tex. (May 2)** ..... $ .25
North Texas (May 2)** ..... .25
East Central Texas (May 2)** ..... .25
Moran, Tex. (May 2)** ..... .25
East Texas† ..... $ .10
East Texas (April 26*) ..... .25
Coreicana, heavy (Jan. 20, 1933)* ..... .30
Other fields..... See gravity table

†Effective April 24—The Texas Company. Effective April 25, Humble Oil & Refining Co., Stanolind Crude Oil Purchasing Co., Tide Water Oil Co., Panola Pipe Line Co., Arkansas Fuel Co., Empire Oil & Refining Co., Sun Oil Co., and Shell Petroleum Corp. Effective April 26, Sinclair Prairie Oil Marketing Co. Effective April 28, Atlas Pipe Line Co. Humble Oil & Refining Co. withdrew posted price in East Texas on May 2.
*Magnolia Petroleum Co.
**Humble Oil & Refining Co.

West Texas

West Texas and Lea County, New Mexico (May 2)** ..... $ .20
Iatan and Westbrook..Same as North Texas
Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos Counties..... See note below
Lea County, N. Mex. .....
.....See Rocky Mountain table
Toborg, Pecos County* ..... $ .40
Jones and Fisher Counties .....
.....See gravity table

Note—Crane, Upton, etc., effective January 19 by The Texas Company, 20 cents; followed by Humble Oil & Refining Co., Magnolia Petroleum Co., Gulf Pipe Line Co., on January 20, and by other purchasers.
*Shell Petroleum Corp., January 19, 1933.
**Humble Oil & Refining Co.

Texas Panhandle

Gray County, Texas (May 2)** ..... $ .20
Hutchinson and Carson Counties, Texas (May 2)** ..... .18
Gray County, Wheeler County and Carson-Hutchinson Counties.....See gravity table

**Humble Oil & Refining Co.

Gulf Coast

Gulf Coast (May 2)** ..... .30
Refugio, Texas (May 2)** ..... .30
Conroe, Texas (May 2)** ..... .30
Grade A and Grade B specifications discontinued by leading buyers.....
.....See gravity table
Jennings, La. (Jan. 20, 1933)*..... $ .35
Cameron Meadows, La. (Jan. 20, 1933)† .....Below 20 gravity 22 cents, differential 2 cents per degree beginning with 21-21.9 at 26 cents with 40 gravity and over at 53 cents.
Refugio, light..... See gravity table
Refugio, heavy (Jan. 20, 1933)‡..... .45
Markham‖..See Gulf Coast gravity schedule
High Island‡.....
.....See Gulf Coast gravity schedule
Conroe .....See note

*Gulf Refining Co. †Magnolia Petroleum Co. ‡Humble Oil & Refining Co. §The Texas Company. ¶Yount Lee Pipe Line Co.
**Humble Oil & Refining Co.
Note—In the Conroe Field, effective January 19, Tide Water Oil Co. posted as follows: 35-35.9 degrees, 59 cents, with 1 cent added for each degree upward to 40 degrees and over, at 64 cents; January 20, Humble Oil & Refining Co. posted 35-35.9 degrees, 54 cents, with 2 cents added for each degree upward to 40 degrees and over at 64 cents. The Texas Company met Tide Water Oil Co. prices on March 6.

South Central and Southwest Texas

Mirando, Texas (May 2)** ..... .35
Pettus, Texas (May 2)** ..... .35
Salt Flat and Darst Creek, Tex. (May 2)** ..... .23
Darst Creek.....See note below
Luling (Jan. 20, 1933) ..... $ .30
Miranco (Jan. 20, 1933) ..... .35
Pettus (Jan. 20, 1933) ..... .55
Salt Flat (Jan. 20, 1933) ..... .40
Lytton Springs (Jan. 20, 1933) ..... .45
Duval County (March 6, 1933) ..... .35
Saxet (March 6, 1933) ..... .45

Note—The Texas Company, January 19, followed by Humble Oil & Refining Co., Magnolia Petroleum Co. and Gulf Pipe Line Co., January 20. Magnolia Petroleum Co. in Luling; Magnolia, Humble and Gulf companies in Refugio crude; Humble and Gulf companies in Pettus; Humble and Gulf companies in Salt Flat; Magnolia Petroleum Co. in Lytton Springs. In Darst Creek, effective January 19, The Texas Company, 35 cents; effective January 20, Magnolia Petroleum Co., 35 cents; Humble Oil & Refining Co., 40 cents; Gulf Pipe Line Co., 40 cents. Duval and Saxet posted by The Texas Company.
**Humble Oil & Refining Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades) .....
.....See note below
Urania, La. (Jan. 20, 1933)..... $ .25
East El Dorado, Ark. (Jan. 20, 1933).
.....See note below
Other fields.....See gravity table

Note—Smackover, all grades, effective January 19 by The Texas Company, 30 cents; January 20, Standard Oil Co. of Louisiana, 20 cents, Magnolia Petroleum Co., 20 cents, Gulf Refining Co. 20 cents; Louisiana Oil Refining Corp., 25 cents. Urania Field posted by Louisiana Oil Refining Co. and H. L. Hunt, Inc., East El Dorado, effective January 20, Magnolia Petroleum Co. 20 cents, Gulf Refining Co. 30 cents.

Eastern States

JOSEPH SEEP PURCHASING AGENCY
(Effective January 21, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$1.47
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.17
Penna Grade Oil in Eureka Pipe Line Lines	1.12
Penna Grade Oil in Buckeye Pipe Line Lines	.97
Corning Grade Oil in Buckeye Pipe Line Co.'s line (Jan. 20, 1933)	.70
Ragland Grade Oil in Cumberland Pipe Lines (Kentucky) (Jan. 16, 1931)	.60

PENNZOIL CO.
(Effective January 21, 1933)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	$1.42

Includes Cochran, Franklin, Hamilton and Doolittle districts.

(Continued on Page 30)

Crude Oil Gravity Table

Degrees of gravity—	1 Kansas, Oklahoma, North Texas, Central Texas, East Central Texas	2 North Louisiana and Arkansas	3 North Louisiana and Arkansas	4 Gray County, Texas	5 Carson, Hutchinson and Moore Counties, Texas	6 Gulf Coast, Texas and Louisiana	7 Gulf Coast, Texas and Louisiana	8 Salt Creek, Wyoming
Below 20	....	....	....	....	....	$.46	$.32	....
20-20.9	....	....	....	....	....	.46	.34	....
21-21.9	....	....	....	....	....	.46	.36	....
22-22.9	....	....	....	....	....	.46	.38	....
23-23.9	....	....	....	....	....	.47	.40	....
24-24.9	....	....	....	....	....	.48	.42	....
Below 25	....	....	....	....	....	....	....	....
25-25.9	....	....	....	....	....	.49	.44	....
26-26.9	....	....	....	....	....	.50	.46	....
27-27.9	....	....	....	....	....	.51	.48	....
28-28.9	....	....	....	....	....	.52	.50	....
Below 29	$.28	$.28	$.30	....	....	....	....	$.38
29-29.9	.30	.30	.32	....	....	.53	.52	.30
30-30.9	.32	.32	.34	....	....	.54	.54	.32
31-31.9	.34	.34	.36	....	....	.55	.56	.34
32-32.9	.36	.36	.38	....	....	.56	.58	.36
33-33.9	.38	.38	.40	....	....	.57	.60	.38
34-34.9	.40	.40	.42	....	....	.58	.62	.40
35-35.9	.42	.42	.34	$.30	$.30	.59	.62	.43
36-36.9	.44	.44	.36	.32	.32	.60	.62	.44
37-37.9	.46	.46	.38	.34	.34	.61	.62	.46
38-38.9	.48	.48	.40	.36	.36	.62	.62	.48
39-39.9	.50	.50	.42	.38	.38	.63	.63	.50
40 and over	.52	.52	.44	.40	.30	.64	.63	.52

Note—Effective January 20, the Standard Oil Co. of Louisiana posted the following prices in North Louisiana and Arkansas: Caddo, below 29 gravity, 30 cents; 40 gravity and above, 44 cents. Sabine and De Soto, below 29 gravity, 25 cents; 40 gravity and above, 49 cents. Homer, below 29 gravity, 28 cents; 40 gravity and above, 52 cents. Sarepta and Cartersville, below 29 gravity, 17 cents; 40 gravity and above, 41 cents. El Dorado, below 29 gravity, 25 cents; 40 gravity and above, 49 cents. Haynesville, below 29 gravity, 19 cents; 40 gravity and above, 45 cents. The above all carry 1 cents differential for each degree in gravity. Smackover, all grades, 20 cents.

Column 1—Effective January 18, Stanolind Crude Oil Purchasing Co., Sinclair Prairie Oil Marketing Co.; January 19, The Texas Company; January 20, Magnolia Petroleum Co. (starting at below 25 degrees, 20 cents, with 2 cents added for each degree upward); January 20, Carter Oil Co. in Oklahoma and Kansas and Humble Oil & Refining Co. in North Central and East Central Texas; January 20, Gypsy Oil Co. in Oklahoma and Kansas and Gulf Production Co. in North, Central and East Central Texas; January 18, Globe Oil & Refining Co. and Tide Water Oil Co. in Kansas and Oklahoma; January 19, Empire Pipe Line Co., Shell Petroleum Corp.; January 18, in Oklahoma, Deep Rock Oil & Refining Co., Barnsdall Refineries, Inc., Continental Oil Co., Bell Oil & Gas Co., Tide Water Oil Co., Champlin Refining Co., Anderson-Prichard Corp., Cushing Refining Co., Eason Oil Co., Johnson Oil Refining Co., Mid-Continent Petroleum Corp., Pepper Gasoline Co., Sunray Oil Co., Yale Oil Corp., Twin State Oil Co., Rock Island Refining Co.; January 20, Phlitex Oil Co. and Pure Oil Co.; Oklahoma and North Texas, January 18, Continental Oil Co.; Kansas, January 18, Eldorado Refining Co., Vickers Petroleum Co., Skelly Oil Co. (starting below 25 degrees, 20 cents, with 2 cents added for each degree upward); January 19, White East Oil Corp. Effective April 1, Derby Oil & Refining Co. Humble Oil & Refining Co. withdrew gravity price schedule on May 2.

Column 2—The Texas Company, January 19; Louisiana Oil Refining Co., January 20, Gulf Refining Co., January 20 (starting at below 25 degrees, 20 cents, with 2 cents added for each degree upward). For Standard Oil Co. of Louisiana schedule see note below price table.

Column 3—Magnolia Petroleum Co., January 20.

Column 4—Effective February 28, 1933, Humble Oil & Refining Co. Effective January 20, Phil Tex Oil Co. Effective March 6, The Texas Company. March 7, Magnolia Petroleum Co. Humble Oil & Refining Co. withdrew gravity price schedule on May 2.

Column 5—Effective February 28, 1933, Humble Oil & Refining Co. Effective January 20, Phil Tex Oil Co. Effective February 28, Continental Oil Co. Effective March 6, The Texas Company. March 7 by Magnolia Petroleum Co. Humble Oil & Refining Co. withdrew gravity price schedule on May 2.

Column 6—Effective March 6, 1933, The Texas Company.

Column 7—The Humble Oil & Refining Co., Gulf Pipe Line Co., Magnolia Petroleum Co. Sun Oil Co., January 20. Humble Oil & Refining Co. withdrew gravity price schedule on May 2.

Column 8—Stanolind Oil & Gas Co., January 18.

(California Crude Oil Prices on Page 30)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

May 2, 1933

Taxes

The gasoline quotations given in the following tables include the 1-cent Federal tax as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is generally available at 1.5 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 3 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO (KENTUCKY)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Atlanta, Ga.	19.0	19.0	7.0	11.0
Augusta	20.0	20.0	7.0	14.0
Macon	19.0	19.0	7.0	14.0
Savannah	20.0	20.0	7.0	14.0
Birm'ham, Ala.	21.0	21.0	8.0	13.0
Mobile	19.0	19.0	8.0	8.0
Montgomery	22 0	22 0	8.0	14.0
Jackson, Miss.	16.0	16.0	7.0	12.0
Vicksburg	18.0	18.0	7.0	12.0
Jack'ville, Fla.	19.0	19.0	8.0	9.5
Miami	21.0	21.0	8.0	13.5
Pensacola	20.0	20.0	8.0	14.0
Tampa	19.0	19.0	8.0	13.0
Lexington, Ky.	18.5	18 5	6.0	10 0
Covington	18 0	18.0	6 0	11 5
Louisville	18.0	18 0	6 0	10 0
Paducah	19.0	19.0	6 0	9.0

A third grade "Kyso Green" is sold at a price generally 2 cents below the price on the regular grade.

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 3 cents off tank wagon price throughout territory.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Dallas, Tex.	13.5	15.0	5.0	7.0
Fort Worth	13.5	15.0	5.0	7.0
Houston	13.5	15.0	5.0	8.0
San Antonio	13.5	15.0	5.0	8.0
El Paso	13.5	15.0	5.0	8.0
Texarkana	*14.0	14.0	5.0	†11.0
Muskogee, Okla.	9.5	12.0	5.0	6.0
Okla. City	11.5	14.0	5.0	8.0
Tulsa	12.5	15.0	5.0	8.0
Ft. Smith, Ark.	*13.5	13.5	5.0	†10.0
Little Rock	14.5	14.5	7.0	†10.0

*Less 2½ cents to dealers. †Less 3 cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Chicago	14.1	14.1	4.0	8 0
Decatur, Ill.	15.6	15.6	4 0	8.5
E. St. Louis	14.9	13.9	4 0	7.8
Joliet	15.6	14.6	4.0	8.5
Peoria	15.6	15.6	4.0	8.5
Quincy	15.4	14.4	4.0	8.3
Davenport, Ia.	15.7	15 7	4.0	8 6
Des Moines	15.7	15.7	4 0	8.6
Mason City	15.7	15.7	4.0	8.6
Sioux City	15.3	15.3	4 0	8.2
Duluth, Minn.	16.7	16.7	4.0	8 8
Mankato	16.3	16.3	4.0	8 8
Minneapolis	14.4	14.4	4.0	8.9
LaCrosse, Wis.	17.4	17.4	5.0	9.3
Green Bay	16 8	16.8	5 0	8.7
Milwaukee	16.3	16.3	5.0	8.2
Madison	16.5	16.5	5.0	8.4
Detroit, Mich.	15.0	15.0	4 0	9 0
Grand Rapids	15.5	15.5	4 0	8.7
Saginaw	15.3	15.3	4 0	9.0
Evansville, Ind.	16.2	13.0	5.0	8 5
Indianapolis	16.4	16.4	5 0	8.7
South Bend	16.7	16.7	5.0	9.0
Fargo, N. D.	18.1	18.1	4.0	11 0
Huron, S. D.	17.5	17.5	5.0	9.8
Sioux Falls	17.0	17.0	5 0	9 5
K. C., Mo.*	14.1	14.1	4.0	7.7
Springfield*	15.0	15.0	4.0	7.6
St. Louis	12.0	11.5	3.5	7 2
St. Joseph*	13.0	10.9	4.0	7.3
Wichita, Kans.	13.9	13.9	4.0	6 6
Bartlesville, Okla.	12.5	15.0	5.0	7.3

*State tax 3 cents, 1-cent city tax and 1-cent Federal tax.

Effective November 4, 1932—New dump discount applicable on all grades of gasoline sold from tank wagon. Any tank wagon customer buying 25 gallons or more at one time will be given 1-cent discount per gallon off tank wagon price at time of delivery. Customers not under contract receive no other discount.

Effective January 1, 1933—Discounts on Q.D.A. on 500 gallons or more per month throughout territory; Red Crown Ethyl Gasoline, 3 cents off tank wagon price; Red Crown gasoline, 2½ cents off tank wagon price; Stanolind Blue gasoline, 1 cent off tank wagon price. On deliveries of 75,000 gallons or more each classification allowed 1 cent additional discount.

Discounts on resellers authorized agent's agreement: Same amounts as above except made off service station price instead of tank wagon price.

Stanolind Furnace Oil in Chicago

Effective April 28, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt stw. zero), 100 gallons or more, 6¼ cents; No. 2 (30-34 stw. zero), 150 gallons or more, 5¾ cents; No. 3 (32-36 zero), 300 gallons or more 5¼ cents; No. 4 (12-16 zero), 400 gallons or more, 4½ cents. Viscosity of No. 4, 90-115 at 100° F.; No. 5, 4 cents; for less than specified quantities, add 1 cent.

Fuel Oils
Associated Distributors Prices

Spot market prices on 350 gallons or over deliveries, and top prices on contracts, respectively: 38-40, 7 and 8 cents; 32-36 light, 6⅝ and 7⅝ cents; 32-36 dark, 6⅛ and 7⅛ cents; 28-30, 5⅝ and 6⅝ cents; 24-6, 4⅝ and 5⅝ cents; 18-22, 4¼ and 5¼ cents. On deliveries of less than 350 gallons the spot price is one-half cent higher.

Naphtha

	Tank Wagon	Car
Oleum spirits	10.7	6.22
V.M.&P. naphtha	12 7	7.23
Cleaners' naphtha	13.0	9.23
Stanisol	13.0	9.23

Tank wagon prices f.o.b. Chicago, January 6, 1933. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Denver, Colo.	14.0	17.0	5.0	12.5
Pueblo	14 0	17.0	5.0	12.5
Grand Jnctn.	13 0	21.0	5.0	14.5
Casper, Wyo.	16.0	19.0	5.0	10.0
Cheyenne	14.0	17.0	5.0	11.5
Butte, Mont.	20 0	23 0	6.0	17.0
Billings	21.0	24 0	6.0	15.5
Great Falls	21.0	23.0	6.0	17.0
Helena	21.0	24 0	6 0	17 0
Salt Lake, Utah	16.0	19.0	5.0	16.0
Albu'que, N. M.	14.0	17.0	*7.0	12.0
Boise, Idaho	18.5	21.5	6.0	18.0
Twin Falls	20 5	23 5	6.0	18.0

*One-cent city tax.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
N. Orleans, La.	15.5	15.5	*7.0	†11.0
Baton Rouge	15.0	15.0	6.0	†10.0
Alexandria	14.0	14.0	7.0	†8.5
Lafayette	15.0	15.0	7 0	†10.0
Lake Charles	15 0	15 0	7.0	†10 0
Shreveport	14.0	14.0	6 0	†11.0
Knoxville, Tenn.	19.5	19.5	8 0	12.5
Memphis	18 0	18 0	8.0	10.0
Chattanooga	18.5	18.5	8.0	12.5
Nashville	19.0	19.0	8 0	10 0
Bristol	18.9	18.0	8.0	13.0
Lt. Rock, Ark.	15.5	15.5	8 0	10 0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Two-cent discount off kerosene tank wagon price and 2½ cents off gasoline tank wagon price to dealer and commercial accounts.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Omaha	16.3	17.3	5.0	9 0
McCook	17.0	17.0	5.0	8.5
Norfolk	16.3	17.3	5.0	10.75
N. Platte	17.0	17.0	5.0	9.0
Scottsbluff	17.0	17.0	5.0	9.5

Note — Dealers' discount allowed as follows: Red Crown Ethyl, 3 cents off station price; Red Crown, 2½ cents off normal service station price; Nebraska Blue (third grade), 1 cent off normal service station price.

Ohio

STANDARD OIL CO. (OHIO)*

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Ohio points	15.5	†16.0	5.0	*13.0

*Two cents off on gasoline tank wagon to dealers and commercial accounts; 2½ cents off tank wagon and kerosene to dealers.
†One-cent discount for cash sales.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Albany, N. Y.	14.0	15.0	4.0	9.0
New York	13.5	13.5	4.0	8.0
Buffalo	13.5	14 5	4.0	9.0
Rochester	14.5	15 5	4.0	9.0
Syracuse	15.0	16.0	4.0	9 5
Boston, Mass.	15.0	15.0	4.0	8.0
Augusta, Me.	18.0	19.0	5.0	9.0
Manch'tr, N. H.	17.5	18.5	5.0	8.0
Burlington, Vt.	18.0	19.0	5.0	8.5

*Discount schedule to commercial accounts are as follows: At service stations, 1 cent per gallon; tank wagon deliveries up to 20,000 gallons monthly, 2 cents per gallon; 20,000 to 100,000 gallons, 2½ cents; 100,000 to 300,000 gallons, 3 cents; 300,000 gallons and up, 3½ cents.

Atlantic Coast District

STANDARD OIL CO. (NEW JERSEY)

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Atl'tic, City, N.J.	14.0	15.0	4.0	11.2
Newark	12.9	12.9	4.0	8.5
Annapolis, Md.	14.6	15.6	5.0	9.0
Baltimore	14.0	15.0	5.0	8.0
Cumberland	15 5	16.5	5.0	11.7
Wash'g'n, D. C.	12.2	13.2	3.0	10.0
Danville, Va.	16.7	17.7	6.0	9.9
Norfolk	15.1	16.1	6.0	10.3
Petersburg	16 2	17.2	6.0	11.4
Richmond	15.5	16.5	6.0	10.7
Roanoke	16.7	17.7	6.0	11.0
Charls'n, W. Va.	15 4	16.4	5.0	11.6
Parkersburg	14.0	15.0	5.0	10.2
Wheeling	15.0	16.0	5 0	11.2
Charlotte, N. C.	17.3	18.3	7.0	12.6
Hickory	18 5	19.5	7.0	12.7
Mt. Airy	18.4	19.4	7.0	13.8
Raleigh	18 1	19.1	7.0	12.3
Salisbury	18.0	19.0	7.0	12.6
Charleston, S.C.	16.1	17.1	7 0	10 3
Columbia	18 0	19.0	7 0	12.2
Spartanburg	15 0	16 0	7 0	12.5

Two cents per gallon discount off tank wagon price of gasoline to dealers except Washington, D. C., and Baltimore, Md., where discount is 3 cents. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey.

Canada

IMPERIAL OIL, LTD.
Imperial 3-Star Gasoline

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Hamilton, Ont.	22.5	25.5	6.0	15.5
Toronto, Ont.	22.5	25.5	6.0	15.5
Brandon, Man.	29.0	32.5	7.0	17.5
Winnipeg, Man.	26.0	29.5	7.0	17.5
Regina, Sask.	29.0	32.0	6.0	21.5
Saskatoon, Sask.	31.0	35.0	6.0	23.5
Edmonton, Alta.	29.5	33.5	6.0	22.5
Calgary, Alta.	26.0	30.0	6.0	19.0
Vancouver, B.C.	26.5	29.5	7.0	23.5
Montreal, Que.	23 0	25.0	6.0	15 0
St. Johns, N.B.	24.5	28.5	7.0	20.5
Halifax, N.S.	23.5	27.5	6.0	20.5

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank truck†	Posted retail	Incl'ds tax of	Kero. tank wagon
Fresno	18.5	17.5	4.0	14.0
San Francisco	18.5	17.5	4.0	12.5
Los Angeles	17.0	16.0	4.0	13.5
Reno, Nev.	22.0	21.0	5.0	15.5
Portland, Ore.	17.5	16.5	5.0	13.5
Seattle, Wash.	18.5	17.5	6.0	13.5
Tacoma	18.5	17.5	6.0	13.5
Spokane	21.4	20.4	6.0	18.0
Phoenix, Ariz.	18.5	20.5	6.0	†16.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.
†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	13.5	14.5	4.0	9.5
Philadelphia	13.5	14.0	4.0	9.0
Scranton	13.5	14.5	4.0	9.0
Allentown	13.5	14.5	4.0	9.0
Altoona	13.5	14.5	4.0	9.5
Erie	13.5	14.5	4.0	9.5
Dover, Del.	13.5	14.5	4.0	9.0
Wilmington	13.5	14.5	4.0	9.0
Epringf'd, Mass.	16.5	17.5	4.0	8.0
Worcester	15.5	16.5	4.0	8.0
Boston	15.0	16.0	4.0	8.0
Providence, R.I.	14.5	15.5	3.0	8.0
Hartford, Conn.	15.0	16.0	3.0	8.0
New Haven	15.0	16.0	3.0	8.0

Discount schedule effective November 1, 1932. In Delaware and Pennsylvania, 2 cents off station price on purchases of 2,000 gallons or more per month, in remainder of territory 1 cent. Wholesale discount 2½ cents per gallon on monthly deliveries of 20,000 to 100,000 gallons, 3 cents on 100,000 to 300,000 gallons, and 3½ cents on more than 300,000 gallons.

TANK WAGON CHANGES

Standard Oil Co. (Indiana) revised prices on kerosene at all stations in the territory May 1 with reductions predominating.

Tank Wagon Prices Up in Pacific Coast Area

LOS ANGELES, Calif., Apr. 29.—Pacific Coast marketers, following the action taken by Standard Oil Co., April 25, 1933, increased the tank wagon price of Ethyl and regular gasoline 1 cent per gallon throughout the entire Pacific Coast territory. No change was made in the tank wagon price of third grade gasoline.

Under the new setup 100 per cent accounts will have a 3-cent differential instead of the 4-cent spread existing heretofore. Split accounts under the new schedule will have a 2-cent differential in place of the 3-cent margin existing previous to the new change. By reducing the differential to resellers, major companies hope to stabilize quotations by preventing rebates and price cutting of resellers. The 4-cent spread which has been in effect for the past couple of years has permitted resellers to chisel the price in some cases and thus weaken the general price resistance.

A few weeks ago the Standard readjusted gasoline prices on the Pacific Coast, which had been out of line for some time as a result of distress selling in southern California territory and the importation of three cargoes of Texas gasoline into the Pacific Northwest. In southern California the company increased the price of third grade gasoline 1 cent per gallon simultaneously with a reduction in all three grades in the San Francisco Bay region.

Early in April normal prices were reestablished in Oregon and Washington, where California operators for several months had incurred substantial losses, due to competitive conditions.

The readjustment in refined oil prices and the cut in crude oil prices effected in March should be productive of more satisfactory results, as practically all major marketers on the Pacific Coast sustained substantial losses during the first three months of the current year. This readjustment in prices will permit an upward revision in both crude and refined oil prices during the summer months if producers of crude oil succeed in stabilizing production. If the excess of 35,000 bbls. per day in crude oil production can be eliminated or state production brought down to within striking distance of the prescribed allowable of 440,000 bbls. per day, both producers and refiners should benefit accordingly.

The Standard Oil Co. recently announced that it will not add to its present sales outlets either by construction of new stations or by attempting to acquire stations now supplied by its competitors. The company's sales policy will be directed toward the retention and protection of its present position rather than to seek an abnormal business at the expense of its competitors.

NEWS FOR PETROLEUM REFINERS

Car Registrations Decline 2,364,000 Since 1929 Peak

WASHINGTON, D. C., Apr. 29.—The Bureau of Public Roads reports that last year 24,136,879 motor vehicles were registered in the United States, or 2,364,000 less than in 1929. This represents a decline of 6.6 per cent from the preceding year. The first decrease was in 1931 when it was 2.8 per cent below 1930.

The automobiles, taxis and busses totaled 20,903,422, a decline of 6.5 per cent and major trucks and road tractors totaled 3,233,457, a decline of 6.7 per cent.

The decline in registration for each state follows:

State—	Total vehicles registered in 1932	Decline in registrations from 1930 per cent
Alabama	226,471	8.1
Arizona	94,947	10.1
Arkansas	136,503	24 5
California	1,971,616	3.5
Colorado	285,860	7 3
Connecticut	343,007	3 3
Delaware	52,851	4.3
Florida	286,091	11 5
Georgia	287,716	10 3
Idaho	95,325	14 6
Illinois	1,493,498	7 4
Indiana	796,315	7.6
Iowa	680,330	9.1
Kansas	504,367	9.8
Kentucky	293,265	10.1
Louisiana	242,748	7 7
Maine	171,757	8 8
Maryland	321,242	1.3
Massachusetts	801,909	4 6
Michigan	1,134,808	7.8
Minnesota	683,397	5 1
Mississippi	149,095	18 8
Missouri	717,460	4 7
Montana	109,129	14.2
Nebraska	375,716	9.7
Nevada	31,830	1.1
New Hampshire	106,431	4 6
New Jersey	857,850	1 4
New Mexico	76,767	5 6
New York	2,241,930	2 4
North Carolina	375,695	12 4
North Dakota	153,570	10.3
Ohio	1,589,524	7 1
Oklahoma	428,302	11 3
Oregon	*259,271	6 8
Pennsylvania	1,664,021	4.5
Rhode Island	133,408	3.2
South Carolina	177,020	13.1
South Dakota	161,933	16.1
Tennessee	298,713	14.8
Texas	1,191,324	8 2
Utah	99,851	8 3
Vermont	77,595	7.5
Virginia	370,587	2.3
Washington	446,091	††6 0
West Virginia	327,383	10.0
Wisconsin	694,852	7.9
Wyoming	56,226	9.5
Dist. of Columbia	160,567	7 5
Total	24,136,879	6 6

*For registration year ending June 30, 1932.

†Registrations in Washington increased 6 per cent.

IMPORT REVENUE $7,000,000

The petroleum import taxes brought in a revenue of over $7,000,000 in the first nine months of their operation, according to the latest figures issued by the Treasury Department as follows (the figures for the first three months of the present year being subject to revision):

	1932 June 21 to Dec. 31	1933 Jan. 1 to Mar. 31
Gasoline and light products	$229,960	$16,000
Crude oil	2,824,903	1,890,000
Fuel oil	1,131,134	
Gas oil	1,011	925,000
Paraffin oil	1,049	
Illuminating oil	13,682	500
Lubricating oil	1,722	100
Paraffin and paraffin wax	101,771	75,000
Total	$4,305,232	$2,906,600

NEW REFINERY COMPANY

CHATHAM, Ontario, Apr. 29.—Petroleum Refiners, Ltd., has been incorporated under an Alberta charter with head office at Edmonton and an authorized capitalization of $50,000.

Pass Model Bill to Stop the Practice of Substitution in Marketing All Oils

As part of a program to safeguard motorists against the substitution of petroleum products of known quality the Oklahoma legislature has passed what might be termed a model bill. The bill has been signed by the governor. The provisions in the law include the following:

Section 1. It shall be unlawful for a person, firm or corporation, to store, sell, expose for sale or offer for sale, any liquid fuels, lubricating oils, greases or other similar products in any manner whatsoever, which deceives, tends to deceive, or has the effect of deceiving the purchaser as to the nature, quality or identity of the product so sold or offered for sale.

Sec. 2. It shall be unlawful for a person, firm or corporation, to store, sell, expose for sale or offer for sale in or from any container, tank, pump, or other distributing device or equipment, any other liquid fuels, lubricating oils, grease, or other similar products, than those manufactured or distributed by the manufacturer or distributor, indicated by the name, trade name, symbol, sign or other distinguishing trade-mark or device appearing upon the tank, container, pump, or other distributing equipment in which the same are sold, offered for sale, or distributed.

Sec. 3. It shall be unlawful for a person, firm or corporation to imitate the design, symbol, emblem, color scheme, trade name, trade-mark, or the markings of any buildings or equipment of any other marketers of liquids, fuels, lubricating oils, greases or other similar products, except with the written consent of such marketer, where such imitation may deceive, tend to deceive, or have the effect of deceiving the purchaser as to the nature, source, quality or identity of the product sold or offered for sale.

Sec. 4. It shall be unlawful for any person, firm or corporation to expose for sale, offer for sale or sell under a trademark, trade name, or any other distinguishing mark, any liquid fuels, lubricating oils, greases or other like products other than those manufactured or distributed by the manufacturer or distributor, marketing liquid fuels, lubricating oils, greases, or other like product, under such trade-mark, trade-name, or name, or other distinguishing mark.

Sec. 5. It shall be unlawful for a person, firm or corporation to mix, blend or compound, the liquid fuels, lubricating oils, greases or similar products of any manufacturer or any distributor with the products of any other manufacturer or distributor or to adulterate the same and expose the same for sale, offer for sale or sell the same under the trademark, trade-name, name or other distinguishing mark of either said manufacturer or distributor or as the unadulterated product of such manufacturers or distributors; provided, however, that nothing herein shall be construed to pre-

(Continued on Page 30)

CHECKING IN EAST TEXAS

The motor fuel tax collecting bureau men now working in the East Texas Field checking up on output and revenue from refineries in the district have announced that they would also wage "war" on the "pot" distilleries of gasoline throughout the field. These plants are nothing more than an oil barrel, a few feet of pipe and sometimes a boiler, and are turning out considerable gasoline every day, the majority of which is supposed to be consumed by the maker or on the leases, but much of which is sold to others around the field, paying no tax, either state or Federal, and retailing from 5 to 6 cents a gallon.

DESTROY EAST TEXAS PLANT

The 400-bbl. plant of the Gregg refinery, located at Gladewater, Tex., was destroyed by fire May 1, when waste oil stored in an earthen reservoir was ignited. The fire destroyed three tanks of stored crude oil, and partially destroyed the Trinity Refining Co.'s plant which is located on the refinery site.

TO BUILD NEW REFINERY

The Ampco Engineering Co., of Dallas, Tex., has closed contract with McGeehee & Co., of Dallas, for a complete 4,000-bbl. refinery and natural gasoline plant to be constructed on a site 1 mile northeast of Kilgore on the I.&G.N. Railroad. Site has been obtained and tanks are now under construction.

INVITE GASOLINE BIDS

WASHINGTON, D. C., Apr. 29.—The Navy Department invites proposals for the delivery of 110,000 gallons of domestic aviation gasoline at Port au Prince, Haiti, bids to be opened May 16 in this city.—C. E. K.

REOPEN PIPE LINE RATE CASE

AUSTIN, Tex., Apr. 29.—New Texas oil pipe line rates, representing sharp reductions, have been suspended and the rate case reopened for a new hearing on May 15, on the petition of shippers for still further reductions, it was stated at the railroad commission offices.

On a showing by J. W. Hewett, Wichita Falls chamber of commerce rate expert, that 68 oil receiving points were getting no reductions under the order, the new hearing was called to consider reductions that will serve these refinery and receiving points. Mr. Hewett showed that Dallas and Houston mainly were benefited by the earlier scale.

The new hearing previously had been announced, but neither the cause of it or its purpose had been disclosed.

REFINERY IN BANKRUPTCY

CHATHAM, Ontario, Apr. 29.—The Simrall Refining Corp. of Canada, Ltd., operating a refining plant on the Detroit River near Amherstburg, Ontario, has gone into bankruptcy, the Guarantee Trust Co. of Windsor being named as trustee.

The plant, which is being offered for sale, was completed and commenced operations in May, 1932. It has a production capacity of 2,500 bbls. daily, with storage of 18,500 bbls., railway and water facilities and pipe line to the waterfront.

BUY O'BAR PLANT

C. B. Mitchell, of Coleman, Tex., has purchased the O'Bar Refining Co. 500-bbl. refinery in that city and intends running 150 bbls. of crude weekly through the plant. Crude will be trucked in from wells which have no outlet, and the refined products sold locally.

Committee to Concentrate on Inventory Evaluations

The Committee on Uniform Methods of Oil Accounting has held a meeting in the American Petroleum Institute office, and decided to devote its efforts during the current year to the following study of evaluating inventories.

Various ways are used by different companies in figuring marketing costs, as for example, a seemingly simple thing like service station costs—some companies charge a portion of territory salesmen's salaries and expenses, others include only the cost of operating the service station property. Sometimes a portion of the tank wagon delivery expense, and the bulk terminal supplying the station is included. Different rates of depreciation are used by various companies for the same type of station in the same city. There is no reason why marketing costs cannot be uniform, similar to the Interstate Commerce accounts for the railroads. It will then be possible to compile marketing costs by areas and ascertain an average for the industry, so that a company may know its costs in relation to the industry. After uniform cost statements have been prepared by the accounting committee, they will be presented to the Division of Marketing Activities of the Institute for their adoption as standard practice for the industry.

Regional chairmen of the committee are—Pacific Coast: George H. Forster, comptroller, Union Oil Co. of California, Los Angeles; central, G. F. Smith, treasurer, Continental Oil Co., Ponca City, Okla.; eastern: H. A. Gidney, comptroller, Gulf Oil Corp., Pittsburgh, Pa. Verl L. Elliott, comptroller, Atlantic Refining Co., Philadelphia, is general chairman.

Marland Pipe Line Bill to Include Refined Products

WASHINGTON, D. C., Apr. 29.—The Marland "hot" oil bill, to bar from interstate commerce crude oil produced unlawfully, has been referred to the Attorney General for advice as to the advisability of adding refined products to be equally barred from interstate commerce.

Today the bill has been returned to the house committee on interstate commerce. The inclusion of "refined products" has been accomplished by substituting the words "petroleum commodities" and in that changed form will be introduced in the House by Mr. Marland, and it is expected it will be reinstated and reported by the committee with that amendment.—C. E. K.

START OCTANE REFINERY

Octane Refining Co., located at Chautauqua in Calhoun County, Texas, which has been shut down for about 10 days, is again in operation. A small still is to be installed in the plant to rehandle the naphtha for cleaning fluid. This plant is located near Baird on the T.&P. Railroad and processes crude produced in the shallow wells in the vicinity of the plant.

TIDE WATER IN CANADA

CHATHAM, Ontario, Apr. 29.—The Tide Water Oil Co. of Canada, Ltd., producer of Veedol motor oils, has leased a warehouse building at 401 Fleet Street West, Toronto. Offices will be opened and storage tanks and oil blending equipment installed for production of Veedol oils. Philip Clover is vice president and general manager of the Canadian company.

Crude Price Cuts Halt Move for Higher Bunker Oil Quotations in Atlantic Coast Area

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, May 1.—Crude oil price reductions put into effect in East Texas last week effectively put the quietus on the move for higher bunker "C" oil quotations, for the time being at least, and the advances in posted prices which had been looked for during the latter part of the week consequently failed to materialize. The move for a higher bunker oil market has been deferred but temporarily, however, it is believed, and at the first definite signs of recovery in the crude oil price structure, East Coast refiners are expected to put higher fuel oil prices into effect. Open market supplies of fuel oil continue extremely limited, and buyers are being forced to pay full posted refinery quotations for prompt shipment supplies.

East Coast gasoline centers continued to mark time during the week, with prices unchanged in the tank car market. The undertone remained firm, however, and the trade was momentarily expecting announcement of an upward prive movement, probably of a full cent per gallon. Gallonage continued on the increase, under the stimulus of mild weather.

Refinery Gasoline

While higher tank car quotations are still being talked in the trade, the inflation move has not yet passed the stage of conversation, and refiners here are still quoting U. S. Motor at 4¾ cents per gallon, and gasoline of 65 octane number and above at 5 cents, both f.o.b. refineries or terminals. The same quotations apply at other principal East Coast tank car marketing centers.

Distributors have turned decidedly bullish in their price views, and a heavy distributing movement is under way. Jobbers are filling up their storage, and keeping tanks full with steady replacement buying, in anticipation of an early increase in trading. The opening of navigation in the St. Lawrence and in the Great Lakes has also witnessed a sharp expansion in barge and tanker movement of gasoline.

Tank Wagon Gasoline

Strong markets continue through the area, and the trade was looking for a 1-cent advance in tank wagon and service station prices throughout the week. Such an advance had been planned, it is understood, but action was deferred pending further clarification in the crude oil price situation in the Southwest.

Kerosene

The refinery market was showing further signs of softness during the week, and it was reported that some quantities were available at 5 cents a gallon in tank car lots, f.o.b., although the posted price continued held at 5¼ cents. Demand had eased off.

In the tank wagon market, distributors reported a slight slackening in consumption, but prices were well maintained throughout the area. Marketers classify the present period as the "off-season" when demand for kerosene for heating it tapering down, and before the spring and summer call for this oil for cooking purposes strikes its full stride.

Tank wagon business in the New England area, however, continues active, due largely to the continued heavy sales of distillate burners in that territory.

Furnace Oil

Refinery shipments had fallen off considerably during the week, although refiners continued to maintain previously quoted prices for all grades.

In the tank wagon market, business was also ebbing fast, with the end of the season about in sight. There have been heavy sales of hot-water attachments for domestic oil burners in this territory during the past year, however, and this is expected to make for a moderate movement of domestic heating oils throughout the summer months.

Bunker Oil

The market remains strong at 75 cents per barrel posted for deliveries f.o.b. refineries, with contract buyers operating ocean-going steamships still getting a concession of 5 cents per barrel in New York Harbor.

Refiners had been planning an advance of 10 cents per barrel in the posted quotation for bunker oil, it is understood, but the reduction in crude oil prices in East Texas during the past week forced a postponement of the upward move.

The market for fuel oil in cargo lots continues unusually strong, with short offerings reported, and something in the nature of a shortage of fuel oil is reported to have developed in the Great Lakes area.

Diesel Oil

Nothing out of the ordinary routine transpired in this division of the market last week, and refiners continued to quote $1.65 a barrel, f.o.b., with contract withdrawals accounting for most of the business.

Gas Oil

With daylight saving time now in effect, a further contraction in the demand for gas oil from gas manufacturing companies is expected. Business in the local market during the past week was rather light, but the market undertone continued firm, and refiners were still posting 4 cents per gallon for gas oil of 28 degrees gravity minimum, in tank car lots, f.o.b. refineries or terminals.

Wax

Reflecting higher prices for lubricating oils, the paraffin wax market was again showing firmness last week, although the only price change noted was an advance of one-eighth cent on 120-122 a.m.p. fully refined, bringing the market for that grade up to 2⅞ cents.

Refiners are showing definitely bullish views on wax, however, and are not quoting far ahead on the basis of current prices. A further evidence of the present strong statistical position of the market is the general unwillingness of refiners to entertain bids at prices much under the current posted level.

Petrolatum was likewise showing a somewhat firmer tone during the week, although no actual price advances materialized, and spot business was again along routine lines.

Lubs

Refiners have succeeded in maintaining the sharp advances put into effect on cylinder oils during the previous week and quotations during the week just ended remained firm and unchanged. While there was some resistance on the part of export buyers to the advanced price level during the early part of the week, the united front put up by refiners had its effect, and toward the close of the period considerable export business was reported put through at the higher prive levels.

Red and pale oils showed no price changes last week, but demand was more active, and consumers were evidently apprehensive of a spread of the price advance which took in cylinder oils during the previous week to the neutral oils group.

Exports and Imports of Refined Products, Receipts of California Oil in the East

NEW YORK, May 1.—Considerable price uncertainty existed in export markets during the past week, due to conflicting views as to the probable domestic market price trend under expected inflation, but late in the week the situation had clarified to the point where a resumption of export trading on a limited scale was made possible.

At the start of the week, exporters were quoting East Texas crude oil at 60 cents a barrel, f.o.b. Gulf terminals, and at that time a cargo of 75,000 bbls. was reported closed for May lifting for France on that basis. The cut in East Texas prices, however, unsettled the crude export market, and a buyer came into the market at mid-week for a cargo of 75,000 bbls. for export, looking for oil at 50 cents, and later revising his views down to 45 cents a barrel, f.o.b. Gulf. At last reports, this business was still hanging fire.

High prices quoted on gasoline for May and June loading at the beginning of the week likewise failed to hold. Export operators on Monday were quoting 64-66 375 endpoint, for late May or early June lifting at 4½ cents per gallon, and this quotation effectively scared export buyers out of the market. Later in the week, however, sellers scaled prices sharply downward. A part cargo of about 25,000 bbls. of 64-66 for June loading for Germany was booked at 3¼ cents, and a similar quantity was booked for late May loading for the United Kingdom/Continent at 3½ cents per gallon. These two sales, however, appeared to have taken the greater part of the low-priced gasoline off the Gulf market, and at the close of the week sellers were quoting June at 3½ to 3⅝ cents a gallon, with indications that one or more cargoes may be booked during the current week at the higher prices.

Another sale reported last week involved a block of approximately 25,000 bbls. of 18-pound pressure casinghead gasoline, for prompt loading for the United Kingdom/Continent at 3¾ cents per gallon, which price was considerably under sellers' quotations at the start of the week.

A number of export crude cargoes are reported pending at the Gulf, and several full cargoes of gasoline are also reported destined for the U. S. Gulf market in the near future, with the probability of further fractional price fluctuations on the latter before the market reaches a real trading level.

Shutting out of Russian oil cargoes from the British market is expected to make for a heavier movement of American gasoline, kerosene, and lub oil to the United Kingdom in the near future. Most of this business, it is believed, will be handled by intercompany shipments on the part of the major American units with subsidiary or affiliated marketing organizations in England, and little of this business is expected to reach the open market. Considerable of this gallonage, as a matter of fact, may be handled out of Aruba and Curacao.

Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the Port of New York during the three weeks ended April 22 (all figures in gallons unless otherwise noted):

	Week ended		
	Apr. 22	Apr. 15	Apr. 8
Gasoline	23,000	115,000	935,000
Naphtha	.....	130,000	180,900
Kerosene	10,000	121,000	20,000
Fuel and gas oil	2,000	.....	5,000
Lubricating oil	1,990,000	2,946,000	719,000
Petroleum, ref'd.	32,000	206,000	395,000
	Pounds		
Petrolatum	24,000	.....	175,000
Paraffin wax	1,375,000	2,705,000	2,319,000
Refined	2,350,000	95,000	225,000
Scale	75,000	195,000	495,000
Lub. grease	605,000	596,000	750,000

The sudden advance in export lub prices came as a surprise to export buyers, and the resultant firming up in the position of other refined products for export has tended to slow down buying. Export operators are of the opinion that the sudden inflation in export prices cannot be maintained fully, and are deferring the placing of additional business in the hope of a recession in spot prices. The outlook is still uncertain, however, and it remains to be seen just how extensively the cheapening of American dollars in world markets will affect the export of petroleum products from the United States.

Imports

There was a slight increase in imports of crude and refined oil during the week ended April 22, receipts totaling 1,136,000 bbls., a daily average of 162,286 bbls. (all at Atlantic ports) compared with 969,000 bbls., a daily average of 138,429 bbls., for the previous week, and a daily average of 163,143 bbls. for the four weeks ended April 22. Details follow:

At Atlantic Coast Ports—	Bbls. of 42 gals.
Baltimore	67,000
Boston	67,000
New York	500,000
Philadelphia	269,000
Others	233,000
Total	1,136,000
Daily average	162,286

The week's imports comprised 698,000 bbls. of crude and 438,000 bbls. of fuel oil, importing companies evidently continuing their curtailment of import schedules on the latter product.

California Oil Receipts

Receipts of California refined petroleum at Atlantic Coast ports for the week ended April 22 totaled 190,000 bbls., a daily average of 27,143 bbls., as compared with 145,000 bbls. received at Atlantic and Gulf Coast ports during the previous week, a daily average of 20,714 bbls., and a daily average of 30,321 bbls. for the four weeks ended April 22. The week's receipts, all gasoline, consisted of a 75,000-bbl. cargo landed at Baltimore and one of 115,000 bbls. at Philadelphia.

Important Developments in Marketing Expected in Chicago Territory During This Week

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, May 1.—This week promises to be as replete with developments of considerable importance to the marketing end of the oil business as the past seven days. Standard Oil Co. (Indiana) will announce today a new schedule of prices in the kerosene and distillate tank wagon markets throughout the territory. This general price adjustment is mixed in trend, with downward revisions predominating. In the Chicago district oil trade circles the feeling has been strong that similar action in the gasoline tank wagon and service station postings is near. This action to take up some of the slack between the tank car and the retail markets is considered long overdue.

Major and smaller marketers have, after considerable delay, released their contracts for the next burning oil season, and the low prices named as well as the inclusion of a 1-cent top are causing some apprehension among many distributors. In the tank car markets kerosene and distillates show more strength and slight advances in price on most business. The fuel oil markets have settled somewhat narrowing the spreads of last week. The developments in the tank wagon contracts do not offer an encouraging prospect for future tank car markets, particularly in view of the fact that top prices are named while there is a strong possibility that currency inflation will "skyrocket" prices in other commodities. There is every indication, however, that the large and small independent distributors will not lack protection from refinery sources. Current developments will probably hasten arrangements by distributors with refiners to assure a supply of materials at prices in profitable relationship to the going tank wagon postings.

New Burning Oil Contracts

Prices and tops named in the new burning oil contracts are as follows: No. 1, oil, 6¼ and 7¼ cents; No. 2, oil, 5¾ and 6¾ cents; No. 3, oil, 5¼ and 6¼ cents; No. 4, oil, 4½ and 4¾ cents; No. 5, oil, 4 and 4½ cents. On the oils Nos. 1, 2 and 3, the price is 1 cent higher for quantities under 100 gallons off the tank wagon, and for oils Nos. 4 and 5, the price is 1 cent higher for quantities under 300 gallons off the tank wagon.

The prices in the new contracts compare with those in the last season's contracts as follows. Prices in the 1932 contract: No. 1, 7 and 8 cents; No. 2, 6½ and 7½ cents; No. 3, 5¾ and 6¾ cents; No. 4, 4¾ and 6¼ cents; No. 5 (not sold by Standard in 1932), 4 and 5½ cents. Prices were 1 cent higher on these oils as follows: No. 1, under 100 gallons; No. 2, under 150 gallons; No. 3, under 400 gallons; No. 4, under 400 gallons; No. 5, under 400 gallons.

Distributors' costs of operation in handling the different oils in Chicago has been estimated as follows: No. 1, oil, 1.5 cents; No. 2, oil, 1.5 cents; No. 3, oil, 1.25 cents; No. 4, oil, 0.875 cent, and No. 5, oil, 0.875 cent, per gallon. Under the new freight schedules the transportation cost into Chicago on all these oils is 2.22 cents a gallon. Costs before paying the Group 3 prices on the oils are therefore: Nos. 1 and 2, oils, 3.72 cents; No. 3, oil, 3.47 cents; Nos. 4 and 5, oils, 3.095 cents. At the low prices named in the new contracts the distributors cannot pay more than the following prices, Group 3, for their materials in the tank car markets: 38-40 straw distillates, 2.5 cents a gallon; 32-36 straw distillate, 2 cents a gallon; 22-26 zero fuel oil, 74¾ cents a barrel; 18-22 zero fuel oil, 61 cents a barrel; below 18° zero fuel oil, 48 cents a barrel.

It may be pointed out here that the Chicago Burning Oil Distributors Association suggests the following specifications for the No. 4 oil to meet competitive conditions: Minimum flashpoint, 125° of legal; maximum flashpoint, 290° F. (Cleveland open cup); water and sediment maximum, 1 per cent; zero cold test; good odor; Saybolt Universal viscosity at 100° F., 500 seconds minimum, and 100 seconds maximum.

An interesting development now in progress will soon be climaxed with the revival of the well-known trade-mark name of the old Western Refining Co. of Indianapolis, that is, "Silver Flash." Three of the larger distributors in the district will handle burning oils under the Silver Flash name. This arrangement involves co-operative advertising and mutual use of bulk plant facilities. These companies are Braun Brothers Oil Co., Arrow Petroleum Co., and Apex Oil Co. These companies will also sell Silver Flash gasolines, two and possibly three grades, and three grades of Silver Flash motor oils. One of these companies has completed a program for expanding its gasoline service station facilities considerably. At this time the three companies have 12 bulk plants which will be used in common, thus cutting down a major item of expense, hauling.

Gasoline Developments

Marketers in the Chicago district are hopeful that the direct action being taken in the East Texas Field by a major part of the producers in cutting down overproduction following the tumbling of posted prices to 10 cents a barrel will result in easing the pressure which has threatened to send tank wagon and service station gasoline postings down from 2 to 4 cents a gallon. Service station prices as low as 5.5 cents a gallon, plus tax of 4 cents, are in effect at Chicago trackage outlets. It appears inevitable, therefore, that the gasoline tank car markets, and the natural gasoline-blending naphtha markets must advance sharply to avert a sharp down adjustment in Chicago gasoline prices at the service station. The gasoline offered by the cut-price operators is usually a 50-50 blend of 26-70 natural gasoline and 52-54 gravity blending naphtha. In the better grades of gasoline used to undersell competition a stabilized natural is used with a blending naphtha of the following characteristics: Octane number, C.F.R. Motor Method, 65; gravity, 55-58; initial, 92; endpoint, 410; recovery, 98; intermediate points: 10 per cent, 146; 20 per cent, 182; 30 per cent, 216; 40 per cent, 244; 50 per cent, 268; 60 per cent, 288; 70 per cent, 306; 80 per cent, 338; 90 per cent, 366. The color is pale yellow.

Recent tank wagon and service station price changes announced by Standard Oil Co. are as follows: Service station price of the regular grade gasoline was reduced 3 cents to 13 cents, April 15, at Grand Forks; kerosene tank wagon price at Decatur was cut 3.1 cents to 7 cents, April 25. The tank wagon price on the third grade gasoline was reduced 2.1 cents to 12 cents, April 20, at Springfield, Ill. At Grand Forks the tank wagon price of the third grade was cut 1.5 cents to 13 cents, and the service station cut 1 cent to 12 cents, April 15. As already mentioned, general revisions in the kerosene and distillate tank wagon markets will be announced late today. The new postings may be found on the Tank Wagon Markets page of this issue.

Gasoline Tank Car Markets

The gasoline tank car markets are receiving strong support from the weather man. In the Chicago district the thermometer has already touched 75° F. and weather of this sort means a bulge in gasoline consumption which will keep the jobbers busy if they adhere to their hand-to-mouth policy of buying. Shell Petroleum Corp. is among the refiners who have withdrawn from the gasoline open markets. One major refiner plans to post the following spot market prices this week: Third grade, 2⅝ cents; regular grade, 57-60 Motor Method, 3¼ cents; premium grade, 65-68 Motor Method, 4 cents, Group 3 prices.

Special Naphtha Markets

With most marketers of special naphthas refusing to sell material meeting alleged lower prices reported by buyers, the special naphtha tank car markets have a better tone this week, although past experience gives no assurance that this determined stand will continue for any period. Marketers point out that the benzol, toluol and xylol tank car

(Continued on Page 45)

Do You Remember?

From The Oil and Gas Journal Files

25 Years Ago

May 4, 1908

E. M. Riese, of Cleveland, Okla., who once had all the mineral rights on the Creek Nation, aggregating 2,250,000 acres, and leases of 750,000 acres of the Cherokee Nation, is in Tulsa this week. Mr. Riese was years too soon. He took his valuable leases and rights back East and tried to interest the big oil companies in them, but no one back there thought there was oil in Indian Territory, so he had to reliquish his rights.

The deepest well in the Mid-Continent is drilling at 3,140 feet, near Iola, Kans.

Bob Galbreath, co-discoverer of the Glenn Pool, says he and his associates will build a refinery in West Tulsa.

The new Tulsa directory credits the city with a population of 16,864, a 40 per cent increase over the estimate in the directory of 1907.

Capt. A. F. Lucas has leased the 5,750-acre Lydia plantation near New Iberia, La., for oil and gas purposes.

20 Years Ago

May 8, 1913

John Wolfe, assistant superintendent of production for the Prairie Oil & Gas Co., has resigned to take a position with the Nederlandishe Kolonial Petroleum Maatschaappij, on the Island of Java.

The Consumers Refining Co. (C. B. Shaffer & Co.) is completing its refinery near Cushing, Okla., and will commence running oil about May 15. The Colonial Refining Co. at Cushing started running oil to stills this week.

Contractors receive $1.50 per foot for drilling wells in the Cushing Field, the contractor furnishing fuel and water. Drillers get $6.50 per day and tooldressers $5.50. These are average prices.

Martin Spellacy, noted oil man, escapes with his life from Mexican guerillas in the Tampico oil field, ships as a deck hand on a tanker, and arrives in Los Angeles, Calif. He describes conditions in the Mexican fields as "horrible." Refugees are arriving almost daily at Texas and Louisiana ports.

The Ohio Fuel Oil Co. has declared two 100 per cent dividends since January 1.

10 Years Ago

May 3, 1923

Sir John Cadman and William Fraser have been made directors of the Anglo-Persian Oil Co.

The enormous flood of California oil is seriously worrying oil executives in the states east of the Rocky Mountains. The Pacific Coast Field is producing around 700,000 bbls. per day, and is on the way upward.

The Tonkawa, Okla., Field, has reached a new peak of 104,997 bbls. per day.

Dr. John Bowman, chancellor of the University of Pittsburgh and the Mellon Institute, says that oil sand exists in sufficient quantity to maintain an oil supply for 900 years.

Postmaster McDonald, of the erstwhile sleepy hamlet of Smackover, Ark., wires his resignation to the Postmaster General. "From 5,000 to 7,000 letters a day and tons of parcel post have swamped me," the postmaster complains. Incidentally he is said to have prospered from his ownership of oil lands.

NATURAL GASOLINE MANUFACTURE

Production of Natural Is Curtailed in California

The daily average natural gasoline production in California decreased during March, from 32,691 bbls. to 29,506 bbls., partially due to the shut down following the earthquake. Refinery utilization decreased from 26,843 bbls. to 22,814 bbls. daily and shipments decreased from 1,383 bbls. to 1,313 bbls. daily. Stocks of natural gasoline at natural gasoline plants continued to decrease, amounting to 64,645 bbls. as compared to 72,252 bbls., while stocks at refineries continued to increase, amounting to 2,440,148 bbls. as against 2,329,094 bbls. at the end of February. Total stocks inside the territory at the end of March were 2,504,793 bbls., a total increase of 103,447 bbls., according to the California offices of the Bureau of Mines.

SUPPLY

	March	February
Total production	29,893	32,177
Stock trans. (deliv.) receipt—net	(340)	(88)
Total	29,553	32,089
Deduct refinery requirements:		
Run to stills	3,113	4,983
Blended	19,701	22,760
Total	22,814	26,843
Gains (losses) unaccounted for—net	(1,688)	(1,256)
Net supply available to market	5,051	4,990

DEMAND

Domestic consumption inc. bunkers	490	463
Offshore shipments:		
Alaska and Hawaii	1	2
Pacific foreign exports	1,313	1,381
Total market demand	1,713	1,846
Surplus or (deficit)	3,338	3,144

STOCKS—LAST DAY OF PERIOD

Inside Pacific Coast territory—last day	2,504,793	2,401,346
Increase during the period	103,447	

OPERATING DATA

Number of plants operating	104
Daily capacity in thousands cubic feet	2,576,475

PRODUCTION BY FIELDS

	Gas treated (M. cu. ft.)	Natural gasoline produced (gallons)
Fullerton and Whittier	406,052	1,029,670
Midway	1,526,910	2,637,285
Huntington Beach	447,413	1,250,531
Kettleman Hills	8,826,426	10,874,464
Long Beach	2,770,343	6,409,430
Richfield	283,890	393,246
Santa Fe Springs	4,125,691	6,613,706
Seal Beach	249,587	485,372
Ventura Avenue	3,505,639	3,571,160
All other fields	3,455,300	5,117,945
Total	25,610,251	38,416,809

PRODUCTION BY METHODS

Type of plant—	Gas treated	Natural gasoline produced (gallons)	Gasoline recovery per M.c.f. gas treated
Oil absorption	25,473,166	38,246,412	1.501
Compressor	137,085	170,397	1.243
Total	25,610,251	38,416,809	1.500
			Bbls.
Finished gasoline produced at plants			311

STOCKS

	Gallons	Barrels
Natural gasoline held by plant operators	2,715,084	64,645
Natural gasoline held by refineries	102,486,216	2,440,148
Total	105,201,300	2,504,793

LIQUEFIED PETROLEUM GASES
(Barrels—daily average)

	March	February
Production	387	486
Sales	400	463

PHILLIPS GETS CONTRACT

NEW YORK, May 1.—Phillips Petroleum Co. has been awarded an order for 120,000 gallons of aviation gasoline at 12.4 cents per gallon, f.o.b. Bowman Field, less 1 per cent.

Another Attempt to Clarify Application of Federal Tax on Natural Gasoline

Reversing a decision previously made in regard to the payment of the Federal tax on natural gasoline, the Internal Revenue Department issued the following statement as its opinion for the guidance of manufacturers. Those who have reviewed the instructions find them ambiguous and ineffective in minimizing tax evasion and are hopeful further progress may be made in presenting a plan of accounting that was suggested prior to imposing the tax but which the commission ignored.

The commission's advice, dated April 28, follows:

"Reference is made to bureau letter addressed to you under date of August 5, 1932, in reply to your letter of July 18, 1932, in which a question was presented concerning the application of the tax imposed under Section 617 of the Revenue Act of 1932 to the product known as 'natural or casinghead gasoline.'

"Under the provisions of Section 617 (a) of the Revenue Act of 1932 a tax is imposed upon gasoline sold by the importer thereof or by a producer of gasoline. In the taxing statute it is provided that 'The term "gasoline" means gasoline, benzol, and any other liquid the chief use of which is as a fuel for the propulsion of motor vehicles, motor boats, or airplanes.' At the time the letter of August 5, 1932, was addressed to you it was the opinion of the bureau that the tax imposed under Section 617 of the Revenue Act of 1932 was applicable only to such substances as were suitable for use as a fuel for the propulsion of motor vehicles, motor boats and airplanes. In accordance with that view, you were advised that 'natural gasoline or casinghead gasoline' which had not reached a state of compounding, blending, or processing where such product was suitable for use as a fuel for the propulsion of motor vehicles, motor boats, or airplanes was not subject to the tax imposed under Section 617 of the Revenue Act of 1932.

"The bureau has had occasion to afford further consideration to the provisions of Section 617 with particular reference to the definition of gasoline provided in that section. As a result of further consideration the conclusion has been reached that to justify the previous interpretation set forth above, which is to limit gasoline and benzol to that class of gasoline and benzol the chief use of which is as a fuel for motor vehicles, motor boats, or airplanes, is to construe the language of Section 617 (c) 2 contrary to grammatical and legal construction.

"You are advised that as a result of further consideration of the question the bureau has reached the conclusion that the tax imposed under Section 617 (a) of the Revenue Act of 1932 is applicable to the sale of all products commonly or commercially known as 'gasoline' or 'benzol' regardless of the classification or use of these products. The ruling contained in bureau letter addressed to you under date of August 5, 1932, in which it was held that 'natural or casinghead gasoline' not suitable for use as a fuel for the propulsion of motor vehicles, motor boats, or airplanes is not subject to tax under Section 617 of the Revenue Act of 1932 and is hereby revoked.

"In accordance with the foregoing, the tax imposed under Section 617 is deemed applicable to all sales of 'natural or casinghead gasoline' made by the importer thereof, or by a producer of gasoline as defined in Section 617 (c) 1 of the Revenue Act of 1932, except (1) sales to producers of gasoline, (2) sales for export, and (3) direct sales to states or political subdivisions thereof under the provisions of Articles 45, 10 and 9, respectively, of Regulation 44.

"Attention is directed to Section 1,108 (b) of the Revenue Act of 1926 which provides that no tax shall be applicable to any article sold by the manufacturer, producer, or importer if at the time of sale there was an existing ruling holding that the sale was not taxable and the manufacturer, producer, or importer parted with possession or ownership of such article relying upon the ruling. It appears that the members of your association have been operating in accordance with the ruling of August 5, 1932, and were notified about that date of such ruling. Accordingly, if the members of your association have been selling 'natural or casinghead gasoline' tax free during the period from August 5, 1932, no tax will be payable on such sales. The tax will attach, however, to sales made during the period from June 20, to August 5, 1932, and to sales made after the date of this letter."

A.S.T.M. BOOKLET AVAILABLE

The American Society for Testing Materials has just published a new tentative standard the Method of Test for Knock Characteristics of Motor Fuels. This test method was approved for publication by the Society's Committee on Standards on the recommendation of A. S.T.M. Committee D-2 on Petroleum Products and Lubricants. It is intended for determining the knock ceharacteristics, in terms of an arbitrary scale of octane numbers, of gasolines and equivalent fuels for use in spark ignition engines other than engines for aircraft.

Copies of the new tentative standard can be obtained from A.S.T.M. headquarters, 1315 Spruce Street, at the following prices: For single copies and up to 24, 25 cents each; 25 to 99 copies, 20 cents each; 100 to 250 copies, 15 cents each.

SKELLY BOTTLING PLANT

The Skelly Oil Co. is building a branch bottling plant for liquefied petroleum gases at Minneapolis, Minn., which is expected to be completed in 30 days. Construction has started and calls for an expenditure of about $10,000. From this plant the bottled gas will be distributed to consumers throughout Minnesota and Wisconsin.

RUMANIAN CRACKED GASOLINE

Purchases of natural gasoline by Rumanian refiners and blenders of Rumanian gasoline have declined due to cracking in that country. The quantity of crude used in the four Rumanian cracking installations increased from 4,431,315 bbls. in 1931 to 5,587,470 in 1932. In general, the refineries averaged a recovery of 28.2 per cent gasoline, 15.2 gas oil, 45.33 fuel oil and 2.26 coke, according to Assistant Trade Commissioner K. M. Hill at Bucharest.

United Kingdom Largest Natural Gasoline Buyer

The United Kingdom was the largest purchaser of natural gasoline in the United States during March, according to the most recent reports of the Department of Foreign and Domestic Commerce. The Netherland West Indies was a close second in the volume purchased for the month.

The shipments made to these countries were made from 10 customs districts, the principal volumes handled lifting from New Orleans and Galveston. Although no statement is made to show that the supplies for the United Kingdom were shipped from New Orleans nor that the supply for the West Indies was shipped from Galveston, there is an exact accounting of volumes in the respective cases.

Following are the exports of natural gasoline for March to the respective countries and lifted from the customs districts shown:

RECEIVING COUNTRY
(Barrels)

France	2,515
United Kingdom	154,340
Canada	13,752
Netherland West Indies	147,865
Japan	32,392
Total	350,864
Value	$662,375

CUSTOMS DISTRICT SHIPPED FROM
(Barrels)

St. Lawrence	348
Buffalo	938
New Orleans	154,340
Sabine	2,515
Galveston	147,865
Los Angeles	32,392
Montana and Idaho	595
Dakota	3,493
Duluth and Superior	240
Michigan	8,138
Total	350,864
Value	$662,375

Propose Building Jointly Owned Turner Valley Plant

Meetings of the Independent Oil and Gas Producers Association, and of groups of independent operators in the Turner Valley Field were held recently to discuss a projected gasoline absorption and carbon black plant to handle the residual gas production of the independent companies. The project, as outlined, would involve a capital outlay of approximately $500,000. Tentative plans call for organization of a central company which would have a six months' option on the entire gas production of companies entering the scheme. The proposed absorption plant would have a capacity of about 50,000,000 feet per day of residual gas, the central company paying 2½ cents per 1,000 feet.

At the present time naphtha is extracted from the wet gas by means of separators, but the extraction is not complete and considerable naphtha is burned with the waste gas flares. The absorption plant would take the residual gas after it passed through the separators and secure practically complete naphtha recovery; after which the dry gas, mixed with oxygen, would be burned for the production of carbon black. The plan would utilize large quantities of gas now burned in the field.

Imperial Oil, Ltd., is at present completing the construction of a gasoline absorption plant to handle the residual gas of the Royalite Oil Co. and other Imperial subsidiaries. This plant was commenced last October, and is expected to start operations early in May, when a considerable increase in naphtha production is anticipated.

NEWS FOR SALES DEPARTMENTS

Gasoline Consumption in U. S. in February

Gasoline consumption in the United States in February, 1933, showed a decline of 100,845,000 gallons, or 6.3 per cent, compared to February last year. The daily average consumption in February this year was 34,051,000 gallons, and February last year (29 days) 36,354,000 gallons. The figures, reported by the American Petroleum Institute, based on state inspectors' reports, are as follows:

	Month of— Feb., 1933 (gallons)	Feb., 1932 (gallons)
Alabama	8,806,000	10,683,000
Arizona	5,014,000	5,400,000
Arkansas	7,598,000	7,825,000
California	98,133,000	100,581,000
Colorado	9,320,700	10,615,000
Connecticut	14,297,000	15,212,000
Delaware	2,859,000	2,326,000
District of Columbia	7,313,000	7,376,000
Florida	19,115,000	21,124,000
Georgia	12,469,000	16,352,900
Idaho	1,768,000	2,353,000
Illinois	58,071,000	67,403,000
Indiana	25,704,000	29,161,000
Iowa	20,254,000	20,865,000
Kansas	20,730,000	21,980,000
Kentucky	10,372,000	11,199,000
Louisiana	10,290,000	13,238,000
Maine	5,036,000	4,928,000
Maryland	11,769,000	13,604,000
Massachusetts	32,566,000	33,959,000
Michigan	41,766,700	50,937,000
Minnesota	20,267,000	19,376,000
Mississippi	7,087,000	6,887,000
Missouri	29,691,000	30,978,000
Montana	2,591,000	2,839,000
Nebraska	11,575,000	11,142,000
Nevada	1,188,000	1,340,000
New Hampshire	3,265,000	3,153,000
New Jersey	43,840,000	50,446,000
New Mexico	2,930,000	3,323,000
New York	94,702,000	116,244,000
North Carolina	15,867,000	17,435,000
North Dakota	2,698,000	2,343,000
Ohio	55,675,000	61,323,000
Oklahoma	18,093,000	19,825,000
Oregon	11,723,000	9,981,000
Pennsylvania	64,020,000	72,123,000
Rhode Island	6,060,000	5,850,000
South Carolina	7,089,000	7,730,000
South Dakota	6,012,000	4,716,000
Tennessee	13,033,000	14,462,000
Texas	48,088,000	53,331,000
Utah	2,901,000	3,437,000
Vermont	2,073,000	2,065,000
Virginia	14,794,000	15,810,000
Washington	15,078,009	15,606,000
West Virginia	7,074,000	8,167,000
Wisconsin	21,152,000	25,390,000
Wyoming	1,606,000	1,826,000
Total	953,422,000	1,054,267,000
Daily average	34,051,000	36,354,000
Total decrease	100,845,000	
Percentage decrease	6.3	

New High-Speed Tractor With Many Advantages

A new high-speed tractor, both smaller and cheaper than the models now in general use, is being developed, according to C. G. Krieger, engineer of the Detroit laboratories of the Ethyl Gasoline Corp.

Made possible by high compression, the new tractor is mounted on balloon tires and is capable of efficient performance at 25 miles an hour on highways. It combines the features of a trucking and general farming instrument.

"The rubber-tired tractors, equally adaptable to road use and farm tasks, are becoming more practical," Mr. Krieger explains, "mainly because of the high compression engine powered by anti-knock gasoline."

The new tractors, he pointed out, will include the most modern automotive features—high compression, higher gear ratios and more flexible higher speed travel.

"More than 50 per cent of the 6,500,000 farms in the United States contain less than 100 acres," he said. "These farms require compact, yet powerful tractors for their cultivation. Units of the most desirable size, power, efficiency and low initial cost can be provided only by high compression and superior gasoline.

Clarifies Extent of Responsibility Selling Lubricants on Tax-Exempt Certificates

By CHARLES E. KERN
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Apr. 29.—Tax on sales of oil for further manufacture are clarified by a decision of the Bureau of Internal Revenue in reply to an inquiry from the National Petroleum Association. The bureau states:

"Your attention is directed to Sales Tax Ruling 647, XII-11-6,071, appearing in the Internal Revenue Bulletin issued on March 13, 1933. It is provided therein that where a customer purchases lubricating oil from the manufacturer thereof furnishing him a certificate of exemption showing a registration number as a manufacturer of lubricating oil and the vendor has reason to believe that the customer is erroneously using the exemption certificate in making tax free purchases the vendor should immediately notify the collector of internal revenue who issued the registration number of the tax free sale of the oil made by reason of the exemption certificate, with the name and address of the customer, in order that he may be advised with regard to his liability before a large amount of tax is incurred.

"It will be noted that the bureau holds that in all cases where a manufacturer or producer makes tax-free sales of lubricating oil, he is required to use reasonable diligence to satisfy himself that a sale under the exemption certificate furnished him is warranted. Where a person fraudulently or through misunderstanding buys lubricating oil tax-free under an exemption certificate under circumstances where exemption is not warranted, such person is liable for the tax upon his sale or use. If the original vendor has knowledge that the oil purchased is not intended for further manufacture by the vendee, the former is liable for the tax and is not relieved of responsibility by tender from the vendee of an exemption certificate.

"In some cases a registered manufacturer of lubricating oils desires to purchase lubricating oils from the manufacturer thereof, tax free under Section 620 of the act, solely for resale purposes. In this connection the bureau holds that the sale of oil by the manufacturer thereof for the sole purpose of resale by the vendee, who is a registered manufacturer of lubricating oils, without further manufacture is subject to the tax even though the resale be for further manufacture."

BUILD GULF TERMINAL

The Harbor Terminal Co., organized by and consisting of F. W. Burford, president; H. E. McMahon, vice president; F. C. Hart, treasurer; and L. R. Brammer, secretary, for the purpose of constructing and operating a terminal for storing and shipping refined oil products, is now erecting three 55,000-bbl. tanks on the site of Texas City. The Wyatt Metal & Boiler Works of Dallas has turnkey contract on the construction. Other tanks will be erected as needed. The refinery products will be moved through the terminal to marketing facilities of Hartol Products, Inc., along the North Atlantic Seaboard. Terminals are located at New York, Boston, Philadelphia, Hartford and Troy.

NO WEIGHTS-MEASURES MEETING

Cancellation of the national conference on weights and measures for the second successive year, because of abnormal conditions calculated to reduce attendance, has been decided upon by the executive committee, according to announcement of F. S. Holbrook, co-chief of the division of weights and measures of the Department of Commerce and secretary of the national conference. Mr. Holbrook has advised the American Petroleum Institute that the Bureau of Standards will continue to give maximum service to weights and measures officials, manufacturers and others associated with the national conference.

A. S. WHITAKER PASSES ON

Andrew S. Whitaker, secretary and treasurer for the Omar Refining Co. of Tulsa, died Thursday from a stomach disorder which has kept him from active work for more than a year. Mr. Whitaker was widely known in Mid-Continent marketing circles. He is survived by his widow and 3-year-old daughter, his parents and two brothers, Joseph H. and Frederick Whitaker, who also are officers of the Omar Refining Co. of Tulsa.

CALIFORNIA SALES INCREASE

Several independent companies showed substantial gains in the volume of their gasoline sales in California during March with the Shell Oil Co. regaining second position.

Companies selling more than 1,000,000 gallons in March are given in the following table with February sales for comparison:

Company—	March	February
Standard	20,961,181	19,143,911
Shell	13,259,429	11,381,462
Union	12,230,960	10,533,778
Associated	11,047,414	11,461,993
Richfield	9,614,987	9,378,227
General	8,960,589	7,841,115
Texaco	4,823,752	4,295,037
Hancock	3,497,833	3,318,368
Wilshire	3,421,655	3,053,364
Rio Grande	2,868,155	1,796,476
Caminol	2,779,037	1,782,250
Western	2,350,272	2,057,682
Macmillan	2,260,521	2,132,374
Seaside	1,665,244	958,236
Sunset	1,212,703	899,549
Bush	1,114,532	1,119,292
Petrol	1,104,587	516,708
St. Helens	1,089,029	818,444

REDUCE COST OF ETHYL FLUID

The following notice was sent to refiners by the Ethyl Gasoline Corp. in reducing the cost of tetraethyl lead:

"We have today sent the following telegram to all our customers: 'Through further co-operation of our raw material suppliers in connection with the use of lead in regular gasoline, we have reduced the price from .40 cent per cubic centimeter of lead content to .35 cent, with no gallonage charge.'"

SHELL MONTREAL REFINERY

CHATHAM, Ontario, Apr. 29.—Refining operations have been commenced at the new Shell Oil Co. of Canada refinery at Montreal East, Quebec. This plant has an initial capacity of 3,750 bbls. of gasoline a day with a prospective increase in the near future to 5,000 bbls. Gasoline will be the principal product at first, but lubricating oils and greases will be later added to the output. Crude oil storage amounting to 500,000 bbls. has been provided.

Standard New Jersey to Consolidate All Marketing

Effective June 1, the Standard Oil Co. of New Jersey and subsidiaries will effect a sweeping revision and consolidation in marketing operations with the introduction of a new ethylized gasoline, "Essoline," and the elimination of the present regular grades of motor fuel now marketed at the various stations involved in the change.

Retail outlets of the Standard Oil companies of New Jersey, Louisiana and Pennsylvania, and the Colonial Beacon Oil Co. as well, will become "Esso" service stations with the respective company names in each instance secondary at the stations. The change involves some 28,000 service stations of the four companies.

A uniform color scheme of red, white and blue will be adopted at the stations, which will feature the sale of the present "Esso" Ethyl Gasoline, "Essoline," and "Essolube." The present "Standard" gasoline, which is the regular grade handled by the New Jersey, Pennsylvania and Louisiana companies, and "Colonial" which is the regular grade of Colonial Beacon, are being dropped.

The change is in line with the recent reorganization of the marketing operations of Standard Oil Co. of New Jersey and its subsidiaries, whereby C. G. Sheffield, vice president of the operating Standard Oil Co. of New Jersey, was placed in charge of retail marketing operations for the entire group.

The consolidated retail stations of the group cover the States of New Jersey, Maryland, District of Columbia, Virginia, West Virginia, North and South Carolina, Tennessee, Louisiana, Arkansas, Pennsylvania, New York and the New England states.

Furnace Oil Contract Prices for the Season

NEW YORK, May 1.—Standard Oil Co. of New Jersey and other major refiners today announced furnace oil contract prices for the coming season.

Prices in most instances are similar to last season's with tank car quotations 5 to 5¼ cents for 36-40; 4 to 4½ cents for 32-36 and 3½ to 4 cents for 24-26.

Tank wagon quotations for most grades of domestic heating oil are the same as last year's, although the quantity discount has been eliminated at most points.

Naming of prices this season is behind schedule, refiners having held off in anticipation of conditions justifying a higher level.

KANSAS NAMES PORTS OF ENTRY

On May 1, Kansas began enforcing its new state law providing for 38 ports of entry for trucks hauling refinery products across the border lines. Trucks intending to traverse the State must show credentials proving the cargo will not be dumped within Kansas. Otherwise the truck driver is required to show a signed statement that he has paid the 3-cent state tax. These posts of entry will be manned 24 hours a day.

RICHMOND ASSOCIATION

RICHMOND, Va., May 1.—The retail gasoline and oil dealers of Richmond have met to organize an association of dealers. State Senator Worth Smith, Jr., of Louisa, candidate for governor, addressed the meeting relative to the gasoline tax, state licenses and other topics of interest to the members of this new association.

Pass Model Bill to Stop Substitution in Marketing

(Continued from Page 25)

vent the lawful owner from applying his or its own trade-mark, trade-name or symbols, to any product or material.

Sec. 6. It shall be unlawful for any person, firm or corporation to aid or assist any other person in the violation of the provisions of this act by depositing or delivering into a tank, receptacle, or any other container, a liquid fuel, lubricating oils, greases or similar products, other than those intended to be stored therein and distributed therefrom, as indicated by the name of the manufacturer or distributor or the trade-name, trade-mark or distinguishing mark, of the product displayed on the container itself or on the pump or other distributing device used in connection therewith, or shall by any other means, aid or assist another in the violation of any of the provisions of this act.

Sec. 7. Any person, firm or corporation, who violates any of the provisions of this act shall be deemed guilty of a misdemeanor and upon conviction shall be punishable by a fine of not less than $50 nor more than $200 for the first offense or by imprisonment of not more than 30 days, or both, and for a second or subsequent offense, by a fine of not less than $200, nor more than $500, or by imprisonment of not more than one year, or by both such fine and imprisonment.

Sec. 8. The term "person" as used in this act shall include every natural person; the term "firm" shall include copartnerships and associations. If a firm or corporation shall commit a misdemeanor, according to the provisions of this act, every director, officer, agent, employe or member participating in, aiding, or authorizing the act constituting such misdemeanor shall be guilty of having committed a misdemeanor hereunder and shall be subject to the penalties herein provided.

Sec. 9. The sections of this act and each part of such sections are hereby declared to be independent sections and parts of sections, and the holding of a section or part thereof or the application to any person or circumstances to be invalid or ineffective, or unconstitutional shall not affect any other section or part thereof or the application of any section or part thereof to other persons or circumstances.

Sec. 10. It being immediately necessary for the preservation of the public peace, health and safety, an emergency is hereby declared to exist, by reason whereof, this act shall take effect and be in full force from and after its passage and approval.

Opposition to Alcohol Blends Still Growing

(Continued from Page 9)

of "Entertainment as a Factor in the farmers that in states where oil has been discovered many times farmers get annual rents for leases given on the underground crop. For many years in Oklahoma I received a dollar per acre on 400 acres of land that was more than 100 miles from the nearest oil well. It was rent money from my beneath the surface crop. It paid my taxes.

"I am forced to this conclusion: It would be folly to require the users of motor fuel to purchase 40 cents a gallon fuel when there is an overproduction of 3½ cents per gallon fuel. It would be discrimination to say to the farmers who have oil beneath the surface of their farms, we will, by legislation, cut off the market for a certain per cent of your oil. It would be like passing a bill for the cotton farmers in which all clothing had to be made of cotton.

"I am not sure but what certain interests bring up these side issues for the purpose of muddying the waters and getting our attention away from the real issues."

GASOLINE LOST IN COLLISION

NEW YORK, May 1.—Approximately 40,000 gallons of gasoline were lost in a collision this week between the American steamship Fairfield City and the tanker barge Leonard B., in the Delaware River below Newcastle, Del.

Crude Oil Prices

(Continued from Page 23)

Group B 1.41
Includes Titusville district.
Group C 1.40
Includes Turkey and Tidioute districts.
Group D 1.39
Includes Bear Creek and Porkey districts.
Group E 1.37
Includes Eidenau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts.
Price depends on length of pipe line haul to plant at Oil City.

TIDE WATER PIPE CO.
(Effective January 21, 1933)
Bradford, Pa. $1.47
Allegany, N. Y. 1.47

PURE OIL CO.
(Effective January 21, 1933)
Cabin Creek, W. Va. $1.12
Bradford Hollow, W. Va. 1.12
Kelly's Creek, W. Va. 1.12

Rocky Mountain States

OHIO OIL CO.-STANOLIND OIL & GAS CO.
Ilse, light (Jan. 18, 1933) ..... $ .40
Ilse, heavy (Jan. 18, 1933) ..... .34
Fort Collins, Wellington and Greasewood, Colo., are on contract basis.
Florence (Jan. 18, 1933) ..... .33
Dutton Creek, Wyo. (Jan. 18, 1933) ..... .34
Rock Creek, Wyo. (Jan. 24, 1933) ..... .46
Franie, light (Jan. 18, 1933) ..... .31
Frannie, heavy (Jan. 18, 1933) ..... .30
Salt Creek ..... .70
See Stanolind Mid-Continent price schedule
LaBarge ..... Mid-Continent gravity scale
Big Muddy (Jan. 18, 1933)* ..... .40
Grass Creek (Jan. 18, 1933) ..... .62
Grass Creek, heavy (Dec. 15, 1932) ..... .45
Elk Basin, light (Jan. 18, 1933) ..... .62
Lance Creek (Dec. 16, 1932) ..... .32
Poison Spider (Mar. 5, 1931) ..... .70
Hudson (June 2, 1931) ..... .85
Lander (Mar. 5, 1931) ..... .40
Rex Lake (Feb. 22, 1930) 1.10
Osage (Jan. 18, 1933) ..... .53
Lost Soldier (Apr. 12, 1932) ..... .30
Hamilton Dome (Dec. 16, 1932) ..... .25
Torchlight (Jan. 18, 1933) ..... .63
Greybull (Jan. 18, 1933) ..... .62
Cat Creek (Jan. 18, 1933) ..... .62
Pondera (Nov. 7, 1932) ..... .60
Sunburst, Mont. (Nov. 7, 1932) ..... .75
Hogback, N. Mex. (Jan. 18, 1933) ..... .65
Lea County, N. Mex. (Jan. 20, 1933) ..... .30
Maljamar (Jan. 20, 1933) ..... .35
Artesia-Jackson (Jan. 20, 1933) ..... .30

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback and Iles by Stanolind Oil & Gas Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective January 20, posted by Humble Oil & Refining Co. Fort Collins, Wellington, Orchard, Florence, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.

*Posted by Continental Oil Co.

Middle Western States

OHIO OIL CO.
(Effective January 18, 1933)
Lima (Jan. 10, 1933) ..... $ .70
Wooster ..... .70
Illinois ..... .63
Indiana ..... .40
Princeton ..... .62
Plymouth ..... Shut in
Western Kentucky ..... .57
Midland, Mich. (Dec. 31, 1932)* ..... .95
Somerset, Ky. (Jan. 19, 1933) ..... .45
Muskegon, Mich. (Mar. 27) ..... See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon: All companies pay $1 per barrel effective March 27. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and delivered through own pipe line.

Mexico

Panuco* ..... $ .42

*F.o.b. ship, based on March transactions and exclusive of production and export taxes and bar dues.

Canada

Ontario (Jan. 18, 1933):
Petrolia* $1.75
Oil Springs* 1.32
Turner Valley†:
Crude oil, 31°-35.9° (Jan. 24, 1933) 1.41
Crude oil, 36°-49.9° (Jan. 24, 1933) 1.90
Crude oil, 50° up (Jan. 24, 1933) 2.41
Discolored naphtha (Jan. 24, 1933) 2.58
Crude naphtha (Jan. 24, 1933) 2.82

*Imperial Oil, Ltd. †Imperial Oil, Ltd. and Regal Oil & Refining Co.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective March 5, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.)

Gravity—	Long Beach	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canyon	Athens-Rosecrans	Torrance	Richfield	Whittier	Montebello	LaHabra, Coyote	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista Hills	Lost Hills	Coalinga
14-14.9	$.55	$.55	$.55	$.55	$.55	$.55	...	$.55	$.55	$.55	$.55	$.55	....	$.49	$.49	$.49
15-15.9	.55	.55	.55	.55	.55	.55	....	.55	.55	.55	.55	.55	....	.49	.49	.49
16-16.9	.55	.55	.55	.55	.56	.55	....	.55	.55	.55	.55	.55	....	.49	.49	.49
17-17.9	.55	.55	.58	.58	.58	.58	....	.57	.56	.57	.55	.55	....	.49	.50	.49
18-18.9	.57	.55	.61	.61	.60	.61	....	.59	.58	.59	.55	.57	....	.49	.52	.49
19-19.9	.59	.57	.63	.64	.63	.64	....	.61	.61	.61	.55	.59	....	.49	.54	.49
20-20.9	.61	.59	.64	.67	.64	.66	....	.62	.63	.63	.55	.61	....	.53	.56	.49
21-21.9	.63	.62	.66	.69	.66	.68	....	.64	.66	.65	.55	.63	$.57	.55	.58	.51
22-22.9	.65	.64	.68	.71	.69	.70	....	.66	.68	.67	.57	.65	.59	.57	.60	.53
23-23.9	.67	.67	.70	.73	.71	.72	....	.68	.70	.69	.60	.67	.62	.60	.62	.55
24-24.9	.69	.69	.73	.75	.73	.73	$.65	.70	.73	.71	.62	.69	.64	.63	.63	.57
25-25.9	.71	.73	.74	....	.75	.76	.68	.72	.75	.	.65	.71	.66	.66	.65	.59
26-26.9	.73	.74	.75	...	.77	.77	.70	.73	.77	....	.68	.72	.69	.68	.67	...
27-27.9	.76	.76	.77	....	....	.79	.73	....	.80	....	....	.74	.71	.71	.69	....
28-28.9	.77	.79	.79	....	....	.81	.75	....	.82	....	....	.76	.73	.74	.71	...
29-29.9	.79	.81	.81	....	....	....	.78	....	.84	....	....	.78	.76	.76	.73	....
30-30.9	.81	.84	.82	....	....	....	.81	....	....	....	....	.80	.78	.78	.75	...
31-31.9	....	....	....	....	....	....	.83	....	....	....	....	.82	.80	.82	....	...
32-32.9	....	....	....	....	....	....	.86	....	....	....	....	.84	.82	.85	....	...
33-33.9	....	....	....	....	....	....	.86	....	....	....	....	.86	.85	.87	....	...
34-34.9	....	....	....	....	....	....	.86	....	....	....	....	.88	.87	....	....	...
35-35.9	....	....	....	....	....	....	.86	....	....	....	....	....	.90	....	....	...
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	.92	....	....	...
37-37.9	....	....	....	....	....	....	....	....	....	....	....	....	.94	....	....	...
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	...
39 and over	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...

Signal Hill—Met on same day by The Texas Company, Union Oil Co. and General Petroleum Co., and Associated Oil Co.

Huntington Beach—The Texas Company, Union Oil Co., General Petroleum Co. and Associated Oil Co. schedules stop at 26-26.9 degrees, 75 cents.

Seal Beach, Alamitos Heights—The Texas Company met all prices; Union Oil Co., General Petroleum Co. and Associated Oil Co. schedules stop at 26-26.9 degrees, 75 cents.

Athens, Rosecrans, Dominguez—Union Oil Co. schedule stops at 35-35.9 degrees, posting 32-32.9 degrees, 35 cents; 33-33.9 degrees, 37 cents; 34-34.9 degrees, 39 cents; 35-35.9 degrees, 90 cents. Associated Oil Co. met Standard Oil Co. schedule; General Petroleum Co. met Standard Oil Co. prices, stopping at 32-32.9 degrees at 86 cents.

Torrance—Met by The Texas Company. Met by Associated Oil Co, General Petroleum Co. and Union Oil Co., up to 25-25.9 degrees, at 75 cents.

Inglewood—Met by Associated Oil Co. and General Petroleum Co.

Playa Del Rey—(Prices subject to 2 cents per barrel gathering charge. Met by Union Oil Co. schedule starting at 19 gravity.

Olinda-Brea Canyon—Met by Union Oil Co. Met by General Petroleum Co., up to 25-25.9 degrees at 75 cents.

Santa Fe Springs—Met by The Texas Company, General Petroleum Co., Union Oil Co. and Associated Oil Co.; schedules start at 24-24.9 degrees, 64 cents, and end at 35-35.9 degrees, 90 cents.

East Coyote—Effective March 5, Union Oil Co.: 14 to 16.9 degrees, 55 cents; 17-17.9 degrees, 57 cents, with 2 cents added for each degree upward to 24.24.9 degrees, at 71 cents.

Richfield—Met by The Texas Company; met by Union Oil Co. up to 25-25.9 degrees, at 75 cents.

Montebello—Met by Union Oil Co. up to 25-25.9 degrees, at 65 cents.

Kern River, Mount Poso, McKittrick, Sunset, Midway, Elk Hills, Buena Vista Hills—Effective March 5, Union Oil Co.: 11-13.9 degrees, 44 cents; 14 to 19.9 degrees, 49 cents; 20-20.9 degrees, 53 cents; 21-21.9 degrees, 55 cents; 22-22.9 degrees, 57 cents; 23-23.9 degrees, 60 cents; 24-24.9 degrees, 63 cents; 25-25.9 degrees, 66 cents; 26-26.9 degrees, 68 cents; 27-27.9 degrees, 71 cents; 28-28.9 degrees, 74 cents; 29-29.9 degrees, 76 cents; 30-30.9 degrees, 79 cents. Associated Oil Co. scheduled in Midway, Elk Hills and Buena Vista Hills starts at 11 to 13.9 degrees, 44 cents; same as Union Oil Co. schedule from 14 to 29.9 degrees; 30-30.9 degrees, 79 cents. General Petroleum Co.: Effective March 5 in Midway-Sunset same as Associated Oil Co.; Fruitvale, Kern Front, Kern River, Mount Poso and Round Mountain, 49 cents for all grades.

Montebello—Met by Union Oil Co. up to 25-25.9 degrees, at 65 cents; The Texas Company's schedule in Montebello and North Whittier, 14 to 21.9 degrees, 55 cents; 22-22.9 degrees, 57 cents; 23-23.9 degrees, 60 cents; 24-24.9 degrees, 63 cents; 25-25.9 degrees, 65 cents; 26-26.9 degrees, 68 cents.

Santa Paula—Union Oil Co., March 5, 14 to 19.9 degrees, 55 cents; 20-20.9 degrees, 56 cents, with 1 cent added for each degree upward to 25-25.9 degrees, at 61 cents, and then 2 cents added for each degree upward to 30-30.9 degrees, at 71 cents. The Texas Company posts similar schedule in Santa Paula and Shiells Canyon.

Lost Hills-Belridge—Met by Associated Oil Co. and Union Oil Co., with Union Oil Co. paying 44 cents for 11 to 13.9 degrees gravity.

Coalinga—Met by Union Oil Co. and Associated Oil Co. on March 5 and General Petroleum Co. on March 15, but latter company and Associated Oil Co. posted 44 cents for 11 to 13.9 degrees effective March 5.

Ventura Avenue—Associated Oil Co., March 5, 22-22.9 degrees, 58 cents, with 2 cents added for each degree up to and including 30-30.9 degrees at 74 cents. Effective March 15, General Petroleum Corp.

Orcutt—Union Oil Co., effective March 5: From 16 to 19.9 degrees, 49 cents; 20-20.9 degrees, 52 cents; 21-21.9 degrees, 55 cents; 22-22.9 degrees, 57 cents; 23-23.9 degrees, 60 cents; 24-24.9 degrees, 63 cents; 25-25.9 degrees, 66 cents; 26-26.9 degrees, 68 cents.

Kettleman Hills—Effective March 5, Standard Oil Co., Union Oil Co. and Associated Oil Co.: 33 to 33.9 degrees, 66 cents, with 2 cents added for each degree upward to 39-39.9 degrees at 78 cents. Effective March 15, General Petroleum Corp.

Elwood—Prices f.o.b. ship—Standard Oil Co. of California, effective March 5: 33-33.9 degrees, 83 cents; 34-34.9, 85 cents; 35-35.9 degrees, 87 cents; 36-36.9 degrees, 89 cents; 37-37.9 degrees, 91 cents. Met by Union Oil Co.

Newhall, McKittrick and Kern River—Standard Oil Co. of California, 56 cents for all grades, effective March 5.

Wheeler Ridge—Standard Oil Co. of California, effective March 5: 14 to 20.9 degrees, 49 cents; 21-21.9 degrees, 50 cents; 22-22.9 degrees, 52 cents; 23-23.9 degrees, 54 cents; 24-24.9 degrees, 56 cents; 25-25.9 degrees, 58 cents.

Rincon—General Petroleum Corp., effective March 15: 22-22.9 degrees, 54 cents; 2 cents added for each degree upward to 29-29.9, at 70 cents.

National BANK OF TULSA

OUTSTANDING STRENGTH

CAPITAL

Preferred Capital $4,000,000
Common Capital $2,000,000
Surplus $2,000,000

Notice to Depositors

All deposit accounts on the books of The Exchange National Bank were automatically transferred to the books of the National Bank of Tulsa, and all checks drawn on check forms of The Exchange National Bank, against existing balances, will be honored by the National Bank of Tulsa.

WE INVITE THE ACCOUNTS OF INDIVIDUALS, FIRMS, CORPORATIONS AND BANKS. « « « «

NATIONAL BANK OF TULSA

TULSA OKLA.

Member Federal Reserve System

International Petroleum South American Report

CHATHAM, Ontario, Apr. 29.—The average daily production of crude by the International Petroleum Co. of Toronto in its South American fields during March was substantially higher than in previous months of 1933.

In Colombia, the average daily production of 39,316 bbls. in March was the highest since September, 1932. Production in Peru at 24,944 bbls. a day was somewhat under that of January, 1933, but with that exception was higher than in any preceding month since June, 1932.

The actual production in the first two months of 1933 is below that of the corresponding months in 1932, due to the reduced output in Colombia. In January and February, 1933, Colombia production aggregated 2,040,853 bbls. compared with 2,935,813 bbls. Actual production in Peru shows a slight increase with 1,444,480 bbls. for the two months, compared with 1,329,675 bbls. No new wells have been completed in Peru, but two new wells have been completed in Colombia.

Late Fields

OKLAHOMA

A total of 391 Wilcox sand wells that were tested for new potentials in the Oklahoma City Field show a combined production of 909,881 bbls. of oil in four hours open flow, compared to 1,766,540 bbls. on a previous open flow. The decline amounts to 48.5 per cent.

The Corporation Commission announced that the May allowable would be 10½ per cent of the potential, based on a potential of 1,008,000 bbls. a day. No extra production was granted to the wells making 10 per cent or more water and the minimum wells were allowed 30 bbls. a day.

Wells in the Wilcox sand zone in the Oklahoma City Field which have been shut down since April 4, for potential taking were permitted to reopen for regular production on May 2, under the commission's orders. The Simpson sand wells will remain shut in until gauges have been completed to determine their potential production. Work on the new potentials is expected to start during this week.

The Sunray Oil Co.'s No. 1 Jacobs, SW cor. NW NW, Section 15-7-8, in the West Holdenville Pool, in Hughes County, was completed for 20,000,000 feet of gas from the Gilcrease sand at 3,030-56 feet.

Winona Oil Co. and others' No. 1 Harris, SW cor. SE SE, Section 18-7-8, an extension well southwest of the West Holdenville Pool, was showing oil in the Wapanucka lime at 3,122-63 feet.

In the Wentz Pool, in Noble County, the Lucien Consolidated Community's No. 1 Farr, C NE NE, Section 19-20-2w, filled 3,000 feet with oil from the Wilcox sand at 4,995-5,009 feet. It was shut down until tankage can be erected before a production test can be made of the oil showing.

The Lucien Consolidated Community's No. 1 Whitten, C SE SE, Section 7-20-2w, in the Wentz Pool, Noble County, was opened for a production test and made 177 bbls. in four hours from the Wilcox sand at 5,152-93 feet. It was then shut in to erect additional tankage. The east offset is the same company's No. 1 Jerome, C SW SW, Section 8-20-2w, and it was opened for a production test a few days ago and made 590 bbls. of oil in 17 hours.

KANSAS

According to a ruling of Attorney General Roynton, oil royalties are taxable and are to be placed on the tax rolls.

The order does not apply to the royalty owned by the landowner, but only to that part which has been sold and is owned by other persons. None of this royalty has been placed on the tax rolls before.

State Umpire L. R. Pickrell announces that, effective April 29, the allowable of the wells producing from the deep sand formation in the Ritz-Canton Pool, in McPherson County, would be 56 per cent instead of 40 per cent. The increase was due to the Phillips Petroleum Co.'s increase in nominations from 7,500 bbls. to 9,500 bbls. daily.

The allowable daily production from the Stratman area, in Ellsworth County, was placed at 10 per cent of the potential, effective May 1.

Darby Petroleum Corp.'s No. 3 Coons, SE cor. SW Section 29-19-1w, on the east side of the Ritz-Canton Field, McPherson County, was showing oil from the Viola lime at 3,413-15 feet. It is the 111th producing well to be completed in the area.

GULF COAST

HOUSTON, Tex., May 2.—Magnolia Petroleum Co.'s No. 1 Kobs, J. M. Hooper Survey, and No. 1 Martens, Joseph House Survey, both important wildcats in the Tomball district of northern Harris County, Texas, Tuesday were temporarily abandoned, the former in sandy shale at 5,090 feet and the latter in gumbo at 5,186 feet. Orders to quit the tests came unexpectedly and the quitting of them has all operators puzzled, as both tests have been running very high and still have several hundred feet to go before getting into the horizon in which production is expected to be found.

Indications either of another important new field or a 3-mile north extension of the Fox Field in Refugio County were given in a drill stem test made Tuesday morning in George E. Smith's No. 1 O'Brien, Winfield Survey. In a 12-minute test of a sand at 4,294-4,302 feet, 45 fourbles of 28 gravity pipe line oil were recovered. Casing will be set.

NEW POOL IN REFUGIO COUNTY

SAN ANTONIO, Tex., May 2.—George E. Smith's No. 1 O'Brien, Refugio County, midway between the Refugio Field on the southwest and the McFadden Pool on the northeast, in sand at 4,391-98 feet on a drill stem test, showed 41 fourbles of oil in 15 minutes. When the drill stem was brought out the well flowed over the top of the derrick. The oil is 22 gravity and the sand correlates with sand producing in the Refugio Field. Smith and the landowner, O'Brien, control all the acreage and all the royalty and will develop the pool as a unit proposition.

Bill Being Prepared at Washington for Federal Dictator of the Oil Industry

WASHINGTON, D. C., May 1.—The extension of the President's dictatorial powers to include the oil industry is contained in a proposal prepared by Mr. Roosevelt's advisers to be sent to the White House this week.

The draft of the measure of administration advisers contains many of the provisions of the Capper bill, introduced in the Senate more than two weeks ago, but with added powers of control over the industry. The dictatorial powers would be limited to two years.

Under the plan now recommended Harold Ickes, Secretary of the Interior, would be vested with power to control production and prorate the flow of oil permitted in the different fields. The executive powers might be extended to include the authority to fix a minimum price.

The addition of governmental price control would be in line with the plans being worked out for agricultural price fixing and the control of industry to prevent wasteful competition and price slashing. The administration is reported to have found that many in the oil industry, as in the manufacturing field, are advocating government intervention for the reason the industry has not been able to solve its own problems.

The Capper bill, which would be made the basis of the new oil control program, provides that the Secretary of the Interior shall have this authority:

1. To fix the estimated demand for oil that will be consumed in this country and exported.
2. To recommend quotas to be produced in the oil states in conformity with the estimates of consumption.
3. To recommend to the states uniform laws to prevent overproduction.
4. To issue regulations to aid in the enforcement of the law.

The Capper bill left to the states largely the question of deciding how far they would go in curtailing production. A heavy fine and imprisonment was provided for those who violated the Federal statute.

The new plan proposed by administration advisers would specify the regulatory powers vested in the Secretary of the Interior, rather than leaving to the states the option of enacting their own regulatory laws.

New Federal Oil Bill Presented to President

WASHINGTON, D. C., May 2.—A new oil bill has been proposed providing for controlling oil production on a basis of market demand and for fixing a maximum and minimum price. A draft of this measure has been presented to Secretary Ickes of the Department of the Interior and to President Roosevelt for their consideration.

The sponsors of this legislation are said to be Joseph Guffey, former Pennsylvania oil man; Amon G. Carter, Fort Worth, Tex.; M. L. Benedum of Pennsylvania, and James A. Moffett, Standard Oil Co. (New Jersey). The Independent Petroleum Association of America is considering this measure but has taken no action approving it or otherwise.

CRUDE OIL PRICE CHANGES

Effective May 2, the Humble Oil & Refining Co. withdrew its posted price in East Texas, and announced it would pay what it considered the going price for oil in that field. The same company posted the following new flat prices in Texas and southeastern New Mexico: Ranger and North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Currie and Moran, 25 cents per barrel; Gray County, 20 cents; Hutchinson and Carson Counties, 18 cents; West Texas and Lea County, New Mexico, 20 cents; Gulf Coast, Refugio and Conroe, 30 cents; Mirando, 25 cents; Pettus, 35 cents; Salt Flat and Darst Creek, 23 cents.

Effective April 26, Magnolia Petroleum Co. posted 25 cents per barrel in East Texas.

TO DEDICATE BUILDING

The Petroleum Production Engineering wing of the new Engineering Building at the University of Texas, Austin, Tex., will be dedicated at a banquet that has been arranged by the Petroleum Engineers of the University of Texas Chapter of the A.I.M.E., on Friday, May 5. This ceremony will commence at 6 and continue until 9 p.m. The officers of the University of Texas A.I.M.E. chapter are E. N. Dunlap, president; J. K. Butler, vice president; and J. M. Barber, secretary.

DIVIDEND ANNOUNCEMENTS

Directors of Standard of New Jersey have declared a semiannual dividend of 50 cents a share, making the period of payment half-yearly instead of quarterly. There was no change in the amount stockholders will receive.

Directors of Standard Oil Co. (Indiana) voted a quarterly cash dividend of 25 cents per share, payable June 15 on shares outstanding on May 15.

Socony-Vacuum Corp. has omitted its dividend.

Refinery Smoke Nuisance Abated by Photronic Cell

By JOHN ALLEN MURPHY

A new problem has arisen to harass petroleum refineries. It is the smoke problem. The smoke annoyance in itself is not new. It has always bothered every business that operated a power or heating plant. However, in recent years smoke has come to be regarded as a public nuisance, a menace to health. For this reason smoke abatement commissions have been organized in many localities. They are usually conducted as a divison of the city's or county's department of health. These commissions are invariably given full police powers and hence are able to enforce any regulation that they may lay down. Generally it is the custom of these commissions to warn smoke violators at first. If the violations continue the offender is haled into court and fined. The severity of the fine depends usually on how often the offending plant was warned. Fines often run as high as $250.

One of the most active smoke abatement boards in the United States is in Hudson County, New Jersey. Bayonne is in this county and Bayonne is one of the largest oil refinery centers in the country.

Refinery engineers are no more careless in adjusting their combustion than are engineers in other plants. Constant vigilance is the price of good combustion. Every engineer, no matter how efficient he is, cannot always be giving his attention to his firing. He has many other things to do. That is why boilers sometimes belch too much smoke. Improper combustion for only a few minutes a day may bring down on the plant the wrath of the health department.

A large eastern oil refinery has recently made an interesting installation to cope with this problem in one of its boiler houses in the Bayonne district. In the flue that leads from the battery of eight Heine boilers in this room there has been placed an apparatus that sounds an alarm as soon as the smoke passing through the flue reaches a certain predetermined density. This apparatus consists of a source of light on one side of the flue and a photronic cell on the other. ("Photronic" is a copyrighted name used to designate the photoelectric cells and devices manufactured exclusively by Weston Electrical Instrument Corp.) The rays from the light are projected through the flue and impinge on the photronic cell. With a permissible flow of smoke going through the flue, sufficient light shines on the photronic cell, and thus keeps an electric circuit open. But should the smoke reach an objectionable density, the light ray is interrupted and the electric circuit closes. The closing of the circuit sounds a klaxon horn, which warns the engineer that inefficient combustion is taking place in his burners. He has time to remedy the condition before enough of the nuisance-creating black smoke reaches the outside to cause trouble with the health authorities.

RICOU CORP. FORMED

SHREVEPORT, La., Apr. 29.—The Brewster Chemical Co., founded by the late H. C. Brewster of the Brewster Co., Inc., of Shreveport, shortly before his death a few weeks ago, has been taken over by his son-in-law, Clarence A. Ricou, who has reorganized it as the Ricou Corp. The corporation has taken over contracts covering Kentucky, Oklahoma and Kansas, as well as in Louisiana, for treatment of wells with a new solvent to be used in sand wells as well as the acid treatment of chalk rock wells. The new solvent, perfected by Bay Chemical Co. of New Orleans, will be called Super Oil Well acid.

POSTPONES RATE HEARING

AUSTIN, Tex., May 2.—The Railroad Commission today, on application of both sides, postponed from May 15 to June 15 its hearing on new pipe line rates and regulations estimated to effect a $12,000,000 saving for shippers of oil.

Treating Problem at Refinery Involves Study

(Continued from Page 10)

er, straight header, flue plate header, and any combination of these. This drying surface is so arranged that no single portion is more than 6 inches away from any other, thus enabling more rapid and efficient drying. Magnesium hydroxide has a low rate of heat conductivity, and consequently an even distribution of the heating surface is necessary. The drying surface averages from 25 to 35 square feet per ton of Brucite contained in the treating cylinders. A perforated plate covered with a monel metal screen (100 to 200-mesh) is placed in each tower about 2 feet from the bottom to afford a support for the treating reagent and to give uniform distribution of the product to be treated over the entire cross sectional area of the column, thus minimizing channeling. This arrangement is of great importance.

In numerous instances, the continuous doctor treating equipment has been converted to a Brucite system by merely adding the coils and perforated plates, a slight rearrangement of the piping, insulating the towers and the installation of some means of drying and superheating air. The same system of adding sulphur as used in doctor treating is desirable thus utilizing that equipment.

The towers are equipped with manheads at the top to permit easy charging and the Brucite is dumped into the towers to a point about 2 feet from the top. This affords a settling reservoir for any Brucite that might have a tendency to carry over due to the velocity of the gasoline being treated.

In hydrating the oxide in the towers, each one is filled with water and the oxide added incrementally so as to avoid excessive heat effects. A small stream of water is kept circulating upwardly through the tower to assist in keeping the temperature down. Twenty tons of oxide should be hydrated in 24 hours. Theoretically, an increase of 30 per cent in weight should take place; actually, 20 per cent results from the first hydration and the balance made up in subsequent revivifications.

After hydration, the reagent is dried. This is another essential step in the successful operation of the process, not only after hydration but after each revivification. The water is drained from the tower, steam turned into the top of the drying coils and the condensate drained through a steam trap. When approximately half of the adhered water is evaporated, preheated air is turned into the bottom of each tower to complete the drying.

Process Described

Sweetening is accomplished by means of upward percolation through the towers, simultaneously adding a predetermined amount of sulphur in the orthodox manner so as to obtain a balance between sourness and corrosiveness. Theory and practice corroborate each other here, in so far that it has been established that the sulphur required for Brucite sweetening is substantially the same, and in many cases less than that required for sweetening with doctor solution. The rate of pumping is controlled by the quantity of treating reagent in the towers and the nature and content of the mercaptans in the product to be treated. Decreased rate of flow is necessary as the cycle progresses to maintain the product to specifications because of less hydroxide being exposed. A certain rate is reached at which it is uneconomically feasible to operate, and above that rate the product is positive to both doctor and corrosion. It is then necessary to revivify the first tower in the system while a new tower is cut in, the rate increased and operations continued.

When a tower is ready to be revivified, its gasoline is pumped to tankage, depending upon its degree of sourness. The tower is then filled with hot water, steam turned in the coils and the mass boiled for three hours. The liquid is then discharged to the sewer. The tower is filled with 5° Be. caustic soda and boiled for another three hours. The purpose of this wash is to remove siliceous materials and silicic acids which have been deposited on the Brucite surfaces during the previous cycle. These deposits result from acid reactions on the small percentages of inert materials contained in the original oxide. They too must be removed from the surface of the treating material and omission of this caustic wash curtails the subsequent cycles at least 80 per cent. This caustic soda solution is drained to its original storage tank for repeated use. Two subsequent hot water washes are put on the material to insure complete hydrolysis of the magnesium sulphide, each wash being discharged to the sewer.

After the final draining, the Brucite is partially dried by means of the heat in the coils. After approximately six hours of drying in this manner, during which time about half the water is evaporated off, air preheated to a temperature of 335° F. is introduced in the free space in the bottom of the tower. Extremely rapid drying results from this procedure. The point of complete dryness is determined by the use of a psychrometer on the efflux air. The entire regeneration cycle requires from 18 to 24 hours from off stream to on stream, depending on the amount of heating surface.

Operations Continuous

With a spare tower, the operations are obviously continuous although each tower, or combination of towers, will operate on a cycle basis. The length of this cycle depends on the amount of Brucite in the system as well as the quality and quantity of mercaptans in the distillate. Steam requirements for revivification amount to 1,800 pounds (125 pounds per square inch and 100° F. superheat) per ton of Brucite, which includes the steam necessary to preheat the air in a "tube bundle" to 335° F. Air requirements for drying amount to 180 cubic feet per minute, or 6,500 cubic feet per ton of Brucite. Water charges are nil and if the caustic soda is used only once and discarded, the cost only amounts to .00006 cent per barrel sweetened. Cycle capacities of commercial units vary between 10,000 and 45,000 bbls. These are on all types of straightrun, reformed and cracked gasolines having mercaptan sulphur contents between 0.001 and 0.03 per cent, requiring between 2 and 50 pounds of sulphur per 1,000 bbls. to get a sweet noncorrosive product. An installation having 17.5 tons of Brucite in two towers has an average cycle of 25,000 bbls. when processing gasoline requiring an average of 5 pounds of sulphur per 1,000 bbls.

Total revivification costs are:

31,500 lbs. steam at 25c per M	$7.88
113,750 cu. ft. air at 2c per M	2.26
Water, caustic and pumping charges	.50
Total	$10.64

With a cycle of 25,000 bbls., the revivification cost amounts to .00042 cent per barrel or less than one-half mill.

The Brucite sweetening process will produce the same quality gasoline or kerosene as that manufactured by the doctor, or any other mercaptan converting process. Further, when the gasoline is discharged from the system it is finished, ready for either storage or shipment. No water or settling is required. In comparing with processes which remove mercaptans, the only difference in the finished product will be the sulphur content. The Brucite final product will be sweet, noncorrosive to the copper strip, sunlight stability and all types of gums unchanged, although in several cases of high mercaptan gasolines a very marked reduction in potential gums was obtained. Other local conditions noticed were a very marked improvement in color in one instance, and a much better sunlight stability in the other.

Economics of gasoline sweetening are contained in a process of this nature. Brucite operations are compact, definite in producing results, and substantially foolproof. Decided advantages using Brucite and resulting in definite savings are:

1. Elimination of all makeup chemicals.
2. Elimination of oil losses due to emulsification.
3. Reduction in maintenance charges on pumps, lines, etc., on account of not handling strong alkaline solutions.
4. Discontinuance of water washing the finished gasoline.
5. No settling time or equipment necessary.
6. No sludge disposal problems.
7. Less initial investment on new installations because of less tankage and equipment required to perform specific amount of work.
8. Possibility of converting present doctor system with very low expenditures.
9. Reduced utility consumption.

Commercial plants now in operation have shown a saving of approximately 65 per cent of the sweetening cost when processing straightrun gasoline, and 72 to 75 per cent when running cracked gasoline of 65 to 70 octane number and having a mercaptan sulphur content of 0.01 per cent.

IMPORTANT BOOKS
for the Oil Man's Library

"OIL WELL COMPLETION AND OPERATION"

For anyone interested in the equipment and methods used in completing oil wells and producing same, H. C. George's book, "Oil Well Completion and Operation," is recommended. Professor George is a consulting engineer, U. S. Bureau of Mines, and director of the School of Petroleum Engineering, University of Oklahoma, and has had a wide experience in oil field practice.

The book is based upon work done under a co-operative agreement between the U. S. Bureau of Mines and the State of Oklahoma and is recognized as authoritative on this class of subjects.

One feature of this book is the very complete bibliography on every subject covered. While the text of the articles has been restricted to short, concise statements there are ample references to more detailed articles and the book does serve this double purpose well.

This book should be of interest to others than those directly engaged in the production of petroleum because there are many details discussed that should be understood by anyone interested in the industry, no matter in what capacity.

Although the petroleum industry has suffered periods of overproduction the fact is rapidly being demonstrated that crude oil is a wasting asset. With later increasing market demand and the resulting depletion of existing fields, the time will come when the supply of crude oil from our domestic fields will not meet the current requirements.

Professor George has covered, among other details, character of oil sands and production relations; factors affecting methods of completion and operation; completion programs; oil sand porosity, texture and type in relation to recovery; benefits of shooting; effect of water in oil sands on recovery; natural gas and hydrostatic pressure as a factor, and physical and chemical properties of crude oil in relation to recovery.

In mechanical problems dealing with producing wells the book deals with various methods of handling flowing and pumping wells, also gives much valuable information about other methods used in securing oil.

In some wells the oil and water form emulsions and in others paraffin and other residues give trouble, and Professor George has given some valuable advice on these subjects as well as outlining methods for cleaning out producing wells.

In the closing chapters of the book outlines of rejuvenation methods are given and this section should be of much interest to all who have any interests in petroleum because there are many properties that could be profitably treated to increase their production and by the time the repressuring operations are effective it is probable that the demand for the additional oil will exist.

The book contains 234 pages and is profusely illustrated and written in a style that will interest both layman and engineer and will also serve as a text book for the student.

"Oil Well Completion and Operation" may be purchased through the book department of The Oil and Gas Journal at the regular price of $3 postpaid.

Gulf Coast Development Shows Great Changes

(Continued from Page 13)

sand production which has resulted in an extension of drilling activity inland from the Gulf Coast and into a tier of counties previously little wildcatted.

It has been a noticeable fact, according to Mr. Deussen, that each successive period of development has proved up an increasing potential crude reserve and yielded a greater total amount of oil than the preceding period. It also is the general trend that the gravity of the oil produced has increased with each successive stage of development and in the present Eocene production the oil ranges from 38 to 40 gravity and above.

In the Eocene development, there has been very little development below the Yegua and the principal production to date has been in the Cockfield, which is classified at the top of the Yegua. Conroe, Livingston and Pettus are illustrative of this type of production. There has been some drilling into the Cook Mountain and Mount Selman in isolated instances but these and lower formations still lie open to coastal operators. The Gulf Coast is unique in that all production and development to date has been in the comparative recent formations lying above those in which drilling in any other area begins. From this standpoint the possibilities of deep drilling here are unlimited and what future stages of development take place and types of fields are opened rest with the limitations of equipment and the ability of operators to carry the drill on down.

OIL OFFICIAL KILLED

CHATHAM, Ontario, Apr. 29.—Harry Gordon Keenan, division manager of the Cities Service Oil Co., at Hamilton, Ontario, was killed recently in a motor accident near Fulton, when his car was sideswiped while driving in a heavy fog.

We Congratulate Mr. McAdams

Mr. McAdams with the 24" Sievers Reamer which spudded in the Lillis-Welsh No. 1 at Kettleman Hills.

Mr. McAdams with the 5 5/8" Sievers Reamer which passed the world's record and is now being used on the Lillis-Welsh No. 1.

and the North Kettleman Oil and Gas Company for their outstanding accomplishment in drilling the deepest well in the world, and feel grateful that the Sievers Reamer is accredited with having played an important part in obtaining this record depth.

A STRAIGHT HOLE

MR. McADAMS STATES: "The fact that this hole has stayed straight is due to two reasons:—the use of SIEVERS REAMERS forty feet above the bit and the running with a very small weight on bottom, turning the drill at the drill at a high rate of speed." SIEVERS REAMERS WERE USED EXCLUSIVELY ON THIS WELL.

SECURITY ENGINEERING COMPANY

108 W. WHITTIER BLVD.
WHITTIER, CALIFORNIA

MID-CONTINENT DISTRIBUTORS
WILSON SUPPLY COMPANY
1412 Maury St., Houston, Texas

California Well Breaks World's Depth Record; Still Drilling and May Go to 11,000 Feet

By L. P. STOCKMAN

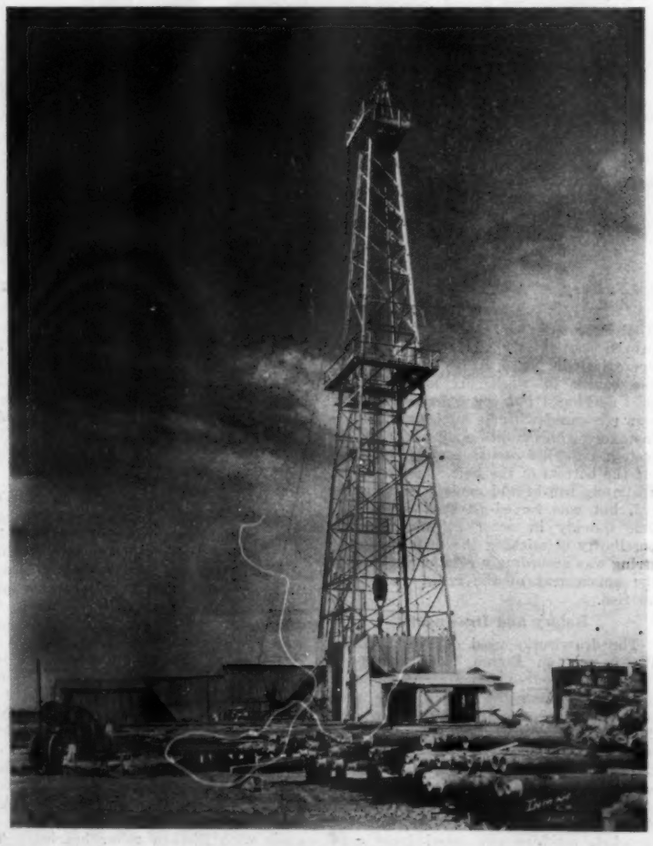
LOS ANGELES, Calif., May 2.—The North Kettleman Oil & Gas Co. broke the world's record for depth on the daylight tour shortly before noon April 22, 1933, and unless something unforeseen develops, genial Ed McAdams and his splendid crews will probably establish a new record that will stand for some time to come. This California company came into possession of the deep drilling record as soon as the bit in No. 1 Lillis-Welsh had passed 10,585 feet, the depth at which No. 1 Jardin of the Penn Mex Fuel Co. in the Tuxpan district of Mexico was abandoned. Drilling operations are still under way, the bit being down 10,820 feet with the result that this hole may possibly be carried down to the 11,000-foot level before drilling operations are finally concluded.

In addition to breaking the world's record for depth, the North Kettleman Oil & Gas Co. established a new casing record by landing 9,642 feet of extra heavy 7-inch high tensile casing it its Kettleman Hills project. No difficulty was experienced in landing this long string of pipe, which was equipped with a Baker cement float collar and shoe to facilitate landing and cementing operations. In addition to the long record-breaking string of 7-inch, this well has 1,275 feet of 10⅝-inch casing and 6,710 feet of 11¾-inch. In landing the 18⅝-inch casing, the company used a Baker cement guide shoe, while the 11¾-inch was landed and cemented in record time by using a Baker cement float shoe.

The North Kettleman Oil & Gas Co.'s record breaker, No. 1 Lillis-Welsh, is located in Section 24-21-16 in the extreme western end of the Kettleman North Dome Field and approximately 2 miles west of the nearest producer. At the time this outpost exceeded the previous world's record for depth the bit had penetrated approximately 1,000 feet of Kreyenhagen shale, below which should be found the Eocene rocks which have been found so prolific in the North Belridge Field of Kern County. At approximately 10,250 feet the company encountered an extremely hard shale body and for several days the digging was so tough that 12 inches of hole was a good day's work. For almost a week the crew averaged a round trip for each foot of hole drilled. No. 1 Lillis-Welsh was spudded in April 12, 1932, and the well's log indicates that the top of the Tulare was encountered at 710 feet, the top of the brown shale at approximately 6,668 feet, the Temblor at 8,030 feet and the Kreyenhagen shale at 9,570 feet.

Deep Drilling Anticipated

The deep drilling record chalked up by the North Kettleman Oil & Gas Co. did not just happen, as the company anticipated deep drilling and accordingly installed the heaviest equipment possible. The cost of drilling No. 1 Lillis-Welsh down into the Temblor was partially borne by dry hole money provided by companies holding adjacent acreage. When the Temblor was found unproductive, contributing companies pulled out of the venture and enabled the North Kettleman Oil & Gas Co. to procure the additional financing necessary to drill down to the Eocene rocks. A check of the well log indicates that the 18⅝-inch casing was landed at 1,275 feet and cemented with 750 sacks of cement on April 18, 1932. The 11¾-inch, 61-pound grade D Jones & Laughlin casing was landed at 6,710 feet and cemented with 300 sacks of cement under a pressure of 400 pounds on June 20, 1932. The record string, consisting of 9,638 feet of grade D Jones & Laughlin 7-inch was cemented January 17, 1933, with 450 sacks of cement under a final pressure of 1,750 pounds.



Rig over the world's deepest rotary drilled hole in No. 1 Lillis-Welsh of the North Kettleman Oil & Gas Co., Kettleman Hills, Calif.

Crew of No. 1, Lillis-Welsh, North Kettleman Oil & Gas Co., Kettleman Hills, Calif., April 22, depth 10,588 feet (world record). Left to right: Orie Dale, fireman; Harry Hillman, roughneck; George Allen, roughneck; Carl Dean, welder; Nace Broscius, welder's helper; Albert Smith, carhead; Ira Tinsley, derrick man; B. W. Davidson, driller. Daylight tour.

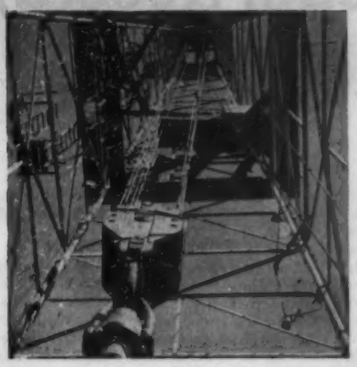
No. 1 Lillis-Welsh has an elevation of 680 feet above sea level, and is located approximately 2 miles east of the point where the western end of the Kettleman Hills flatten out into the Kettleman plain. The topography of the Lillis-Welsh lease is not as severe as other properties located nearer the apex of the structure and consequently did not require any extensive road building. With the exception of two short periods, drilling operations have continued uninterruptedly since the well was spudded in on April 12, 1932. Work was temporarily suspended from December 7, 1932, until January 15, 1933, pending the arrival of the specially fabricated 7-inch casing. On February 4, 1933, work was again temporarily suspended but drilling resumed February 27, 1933, upon receipt of a new string of 3-inch drill pipe. Previous to the resumption of work on February 4, 1933, the company ran in 7,980 feet of 3-inch tubing and after washing the hole conducted a swabbing test. The water shutoff on the 7-inch was approved February 3, 1933, and drilling resumed.

Important Factors

Two important factors are primarily responsible for the remarkable record established in the drilling of No. 1 Lillis-Welsh, the deepest hole to be drilled in the world up to the present time. A deficiency in either element would obviously have precluded the attainment of the depth reached, as a fishing job in a deep hole is of no small consequence. The importance of the equipment selected and the capability of the personal element cannot be minimized as the co-ordinated use of both factors was necessary to success. Drilling operations were conducted under the personal supervision of Ed McAdams, assisted by L. L. Jackson and J. J. Campbell, superintendents. The roster of the daylight crew on duty when the new world's record for depth was established comprised B. W. Davidson, driller; Ira Tinsley, derrick man; Albert Smith, cat head; Orie Dale, fireman; Cary Dean, welder; Nace Broscius, welder's helper; George Allen, roughneck, and Harry Hillman, whom Pacific Coast fans will remember as a mighty fine football player while at Stanford University, roughneck. Harry is serving his apprenticeship under a past master in the art of drilling, as the record established in the drilling of No. 1 Lillis-Welsh places Ed McAdams at the top of the list.

The careful selection of equipment and the mechanical perfection of each item contributed greatly to the success of drilling operations on No. 1 Lillis-Welsh. It might not be amiss to mention, therefore, that the order in which equipment is listed in this resume of work is not indicative of the relative importance of any particular piece of equipment, as each factor had a particular function to perform and in doing so contributed to the success of work. The cellar used in No. 1 Lillis-Welsh is patterned after the so-called Mexican type and is open on

ANOTHER REGAN RECORD



Photographed April 22, 1933; depth to 588 feet

THE WORLD'S DEEPEST HOLE, LILLIS-WELSH NO. 1 AT KETTLEMAN HILLS, IS BEING DRILLED WITH A REGAN CROWN BLOCK AND REGAN TRAVELING BLOCK AND IS PROTECTED BY THE NEW REGAN CASING HEAD.

Regan Specializes in:

Crown Blocks
Traveling Blocks
Casing Hooks
T. B. Santa Fe Control Heads
Slip Type Control Heads
T. B. Tubing Heads
Blow Out Preventers

Regan Forge & Engineering Co.
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New York Office: Seventeen Battery Place, GEORGE R. WOODS, Mgr.

Mid-Continent Representative: 516 Merchants & Manufacturers Bldg., Houston, Texas, BETTIS SALES CO.

Thanks, Mr. McAdams

And here they are installed on the deepest well in the world, drilled by Ed McAdams and a most capable crew, on the north flank of Kettleman Hills

and Congratulations

When Ed McAdams was asked for his views regarding the Martin-Decker Weight Indicator, Vernier and Mud Pump Gauge which were used in drilling the deepest well in the world he replied, "Say anything favorable you wish and I will endorse it. The Martin-Decker Weight Indicator, Vernier and Mud Pump Gauge which we installed on our well have worked perfectly from the day we spudded in and have cost us nothing to maintain. A 10,000-foot well is not possible without a good weight indicator."

THE WEIGHT INDICATOR
MARTIN DECKER CORP.
LONG BEACH CALIFORNIA

Mid-Continent Distributors Reed Roller Bit Company, Houston, Texas

one entire side in order to permit accessibility. The base of the cellar, measuring 16 by 24 feet, is located approximately 25 feet below the floor of the rig. A total of 140 yards of reinforced concrete was used in building the cellar and rig foundations. When starting work the company erected a 136-foot Ideco derrick, which, with reinforcements added, has a rated capacity of 1,000,000 pounds. This provides an ample safety factor, even if another long string of casing should subsequently be landed.

Bits Used

Up to the present time the North Kettleman Oil & Gas Co. has used thirteen 25-inch bits, thirty-four 17¼-inch bits, forty-five 10⅝-inch bits, thirty 8½-inch bits and forty 5⅝-inch bits and has taken 82 cores, mostly below 8,000 feet: Hughes Tool Co. cone bits and Zublin bits proved particularly adaptable to drilling operations in No. 1 Lillis-Welsh. During the course of work, six minor fishing jobs developed but the fish in each case was recovered without difficulty. In one instance, while rotating ahead at 10,100 feet, a twist-off occurred about 350 feet off the bottom of the hole. The crew immediately ran in and made a stab for the fish but was forced to back out of the hole quickly in order to minimize the possibility of sticking the drill pipe. The string was accordingly rotated out and, to the amazement of the crew, there was no fish.

Rotary and Drawworks

The drawworks used on No. 1 Lillis-Welsh was an Emsco H 46, two-post, three-shift, four-speed drawworks with interchangeable roller-bearing boxes, extra large grooved spooling drum, low chain-drive and nonbursting press forged steel brake rim. The rotary was an Emsco D 25, one-half inch opening, roller-bearing rotary machine, one-piece all-steel base with skid cast integral, oversize roller-bearing solid-hub driving sprocket, machine cut speed large cone rollers in table-bearing and unitary-bearing housing. The drum was water cooled to reduce frictional heat. The brake lining used was Allbestos 1 by 9 inch and Thermoid brake lining measuring 1 by 9 inch.

Hoisting Equipment

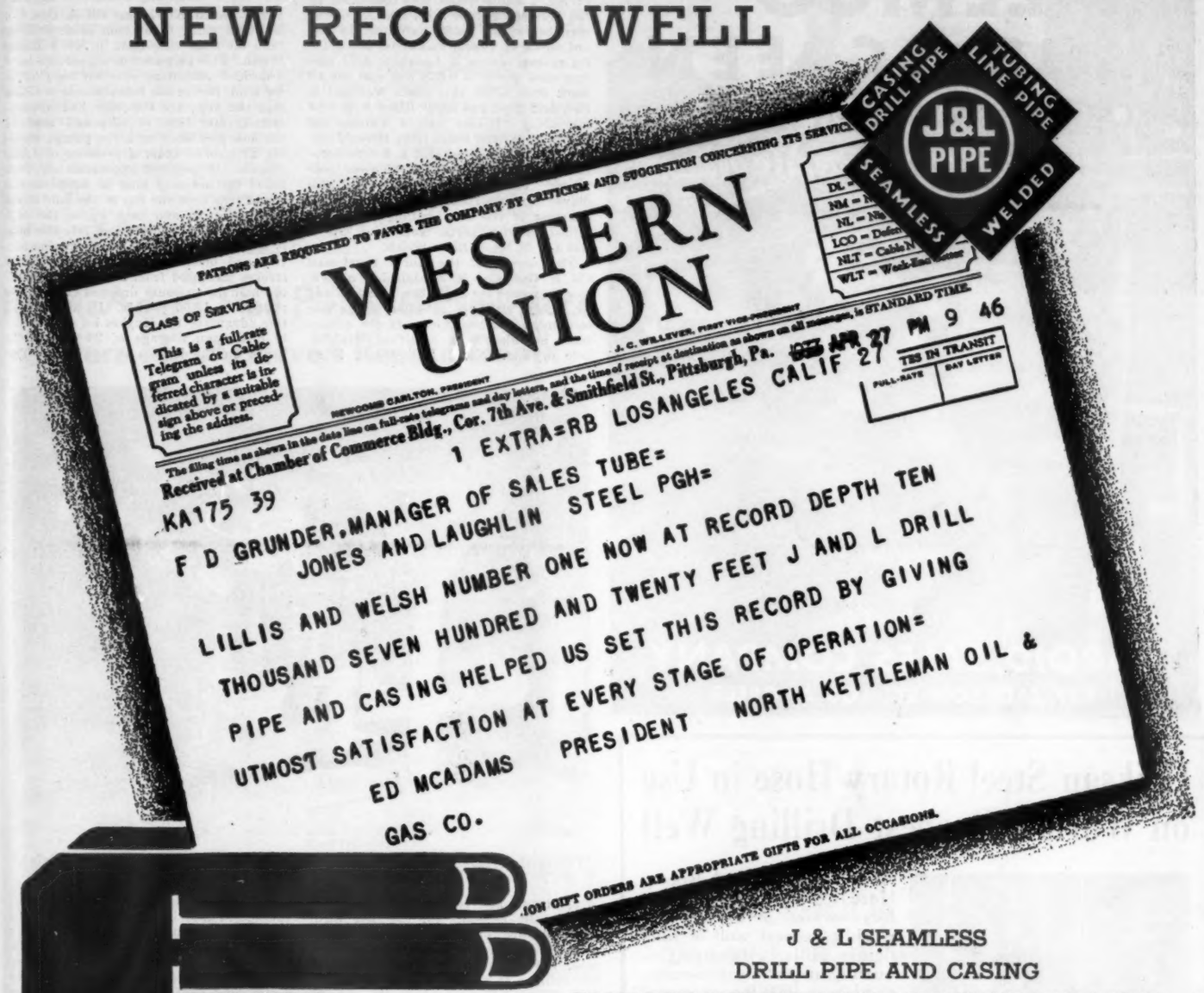
The hoisting equipment consisted of Regan standard equipment, Type A crown block and a 62-inch, five-sheave traveling block, both of which had seen previous service before going into use on this well. The casinghead used for suspending the special string of extra heavy 7-inch A.P.I. high tensile casing was a Regan new design slip type, having a packing arrangement for extra high pressure. The kelly was a Baash Ross design 3½ inches square with 26 feet of square made of S.A.E. 31-40 nickel chromium steel termed a forged upset kelly with 5 by 6-inch 4 A.P.I. left hand box up and 3½-inch A.P.I. right hand tool joint pin down. The company also used a set of Baash Ross roller-bearing kelly bushings and a set of Baash Ross (H. & W.) rotary slips and 6⅝-inch by 40-foot S.A.E. 31-40 nickel chromium steel drill collar.

Battery of four 100-h.p. Lucey boilers gas fired at No. 1 Lillis-Welsh

Water and Power

Two 3-K.W. and one 1½-K.W. Westinghouse generators were used for lighting. Steam was provided by four 100-horsepower Lucey boilers, one 100-horsepower Broderick boiler and a Foster Wheeler superheater. The steam pressure at the dome was 200 pounds, 420 pounds at the throttle and 550 pounds superheat at the dome. Previous to the initiation of drilling the company laid a 3-mile water line from No. 1 Lillis-Welsh to the Huffman lease of the Superior Oil Co., where arrangements had been made to secure an adequate supply of water. As a precautionary measure, the company installed a Permutit water softener equipped with a Neptune trident motor. Motive power was provided by Ideal Ajax roller-bearing 12 by 12 twin drilling engines with Timken roller bearings. The two mud pumps, located apart and below the bottom of the cellar, were Titusville

RECORD PIPE SERVICE FOR A NEW RECORD WELL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TUBING LINE PIPE
J&L PIPE
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JONES AND LAUGHLIN STEEL PGH=
LILLIS AND WELSH NUMBER ONE NOW AT RECORD DEPTH TEN
THOUSAND SEVEN HUNDRED AND TWENTY FEET J AND L DRILL
PIPE AND CASING HELPED US SET THIS RECORD BY GIVING
UTMOST SATISFACTION AT EVERY STAGE OF OPERATION=
ED MCADAMS PRESIDENT NORTH KETTLEMAN OIL &
GAS CO.
ION GIFT ORDERS ARE APPROPRIATE GIFTS FOR ALL OCCASIONS.

J & L SEAMLESS DRILL PIPE AND CASING IN NORTH KETTLEMAN'S LILLIS AND WELSH No. 1

Jones and Laughlin is proud to have played an important role in the drilling of this 10,720 foot well—the deepest in the world. The following J & L Seamless was used: A string of 9933 feet of 4½" O.D., 19.60 lb. Special J & L Seamless Drill Pipe; a string of 11¾" O.D., 61 lb. J & L Grade D Seamless Casing set at 6815'; and a string of 7" O.D. 30.30 lb. and 36 lb. J & L Grade D Seamless Casing set at 9642'. The upper section of the 7" string consisted of 6142' of 30.30 lb. and the lower section of 3500' of 36 lb. casing. The entire string of 9642' was run in 25 hours.

J&L STEEL

JONES & LAUGHLIN STEEL CORPORATION
AMERICAN IRON AND STEEL WORKS
JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA
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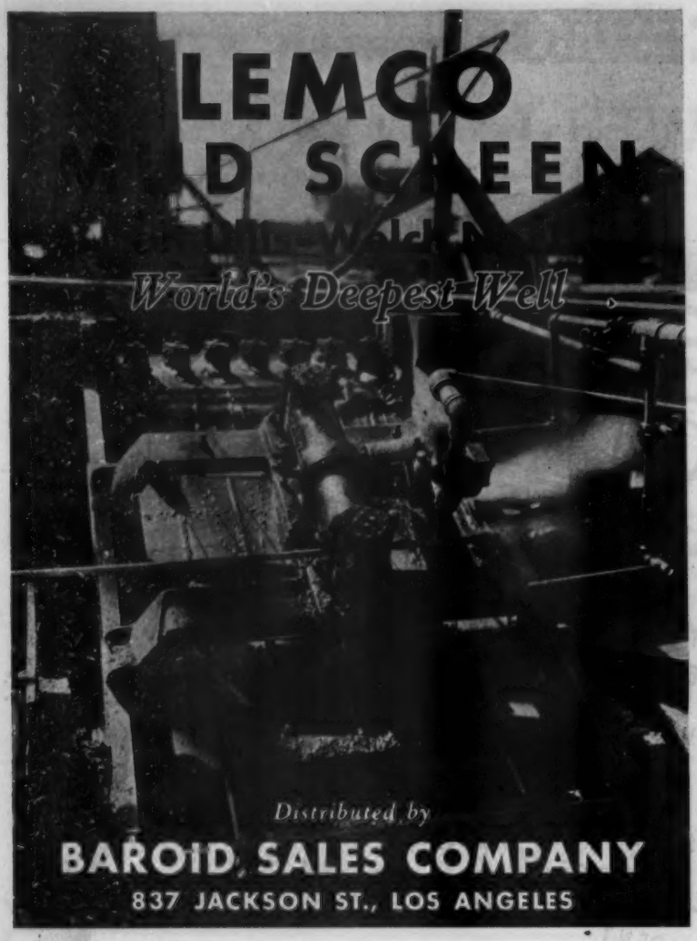
Canadian Representatives: JONES & LAUGHLIN STEEL PRODUCTS COMPANY, Pittsburgh, Pa., U. S. A. and Toronto, Ont., Canada



Acme 14 by 16 by 8¼. The 4 by 6 boiler feed pumps were Fairbanks Morse.

Casing

The 1,275 feet of surface pipe landed in No. 1 Lillis-Welsh was fabricated by the Western Pipe & Steel Co. All casing used below this point, including the record string of 7-inch, was Jones & Laughlin casing. Jones & Laughlin drill pipe was used down to 9,638 feet and for all work done below this depth National 3-inch drill pipe was used. Black wire rope measuring 1⅛-inch and a Calmec cat line grip, Wilson tongs from Byron Jackson, D. & M. pistons, Hill & Foster automatic cat head, Shaffer blowout preventer, Varco liners and valves also played an important part in the establishment of the deep drilling record attained by the North Kettleman Oil & Gas Co. in No. 1 Lillis-Welsh.

The success of the North Kettleman Oil & Gas Co. in establishing a new world's record for depth can be attributed to careful drilling, selection of proper equipment and recognition of the advantages accruing as a result of straight-hole drilling. No. 1 Lillis-Welsh is as straight as a hole can be drilled and this undoubtedly accounts for the ease with which drilling operations are conducted and the absence of complicated fishing jobs. Several factors have contributed to the drilling of a straight hole in No. 1 Lillis-Welsh. These include the use of Sievers reamers, fabricated by the Security Engineering Co., Martin Decker indicators, Lemco vibrating mud screen, Colox iron oxide drilling fluid, Crum and Brainard core barrels and Bettis protectors. During the course of work this reamer has been consistently used above the drill collar or approximately 40 feet back of the bit.

Drilling Practice

No. 1 Lillis-Welsh was started with a 25-inch bit and a 24-inch Sievers reamer down to 1,275 feet, at which point the 18⅝-inch casing was landed and cemented. From 1,275 feet to 6,710 feet the company used a 17-inch bit followed by a 17-inch reamer 40 feet back of the bit. From 6,710 to 9,642 feet the North Kettleman Oil & Gas Co. used an 8½-inch bit, followed 40 feet back with an 8½-inch reamer. Before landing and cementing the record string of 7-inch casing, the company enlarged the hole in No. 1 Lillis-Welsh from 8½ to 9 inches with a Sievers reamer exclusively. When taking cores, the reamer was likewise run above the core barrel. Up to the present time the company has used five sizes of reamers. These include the 24-inch, 17-inch, 10⅝-inch, 8½-inch and 5⅝-inch. Work on this well indicates that use of the Sievers reamer does not retard the speed of drilling and that it is almost impossible for the bit to get out of line as the reamer will cut as fast as the bit. It also has a tendency to stabilize the progress of both the bit and core barrel.

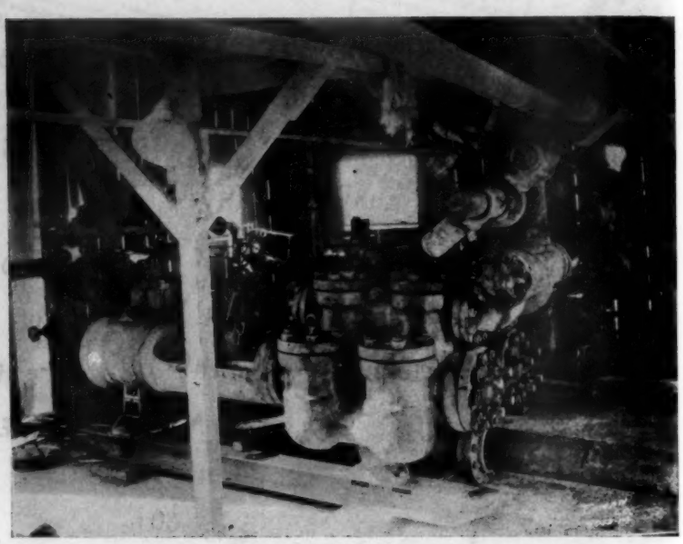
Drilling Fluid

The North Kettleman Oil & Gas Co. has been using Colox iron oxide drilling fluid for some time past in No. 1 Lillis-Welsh. This preparation appears to have a decided advantage over ordinary drilling mud. Before the introduction of Colox into the hole, the company had approximately 500 bbls. of 85-pound mud in the hole and ditch with the pumps working 21 strokes under a pressure of 1,350 pounds. It required approximately four hours for ordinary mud to complete the round trip from the top of the hole down to the bottom and back up to the top. When Colox was introduced into the hole it made the round trip in approximately two and one-half hours and the pump strokes increased from 21 to 32 per minute and the pressure dropped from 1,350 pounds to 1,150 pounds. In addition to this advantage the Hughes bit consistently drilled an average of 26 feet in 22 hours on the bottom of the hole. The use of this preparation had a further advantage in that it permitted the crew to come in and out of the hole in four hours, whereas it usually required six hours or more with ordinary drilling mud. The use of Colox in place of the native mud appears to have resulted in increased efficiency of pumps, faster circulating hole speed, from increased variables to depth, and the maintenance of approximately 6,300 pounds per square inch at the bottom of the hole.

The use of Colox in No. 1 Lillis-Welsh had a decided advantage over the use of ordinary mud in that it resulted in a quicker removal of cuttings and appears to have increased the wearing quality of the bits approximately 20 per cent, with a consequent increase in the amount of hole per bit. Previous to using Colox, the company was using a native Coalinga clay which is fine in texture almost to colloidal content, buff in color, unusually free of sand, gypsum, calcareous, gravel and abrasives. This clay was mined from an outcrop associated with base rock near the San Andreas rift, or fault zone, and is representative of the native mud in physical content and mechanical limitation.

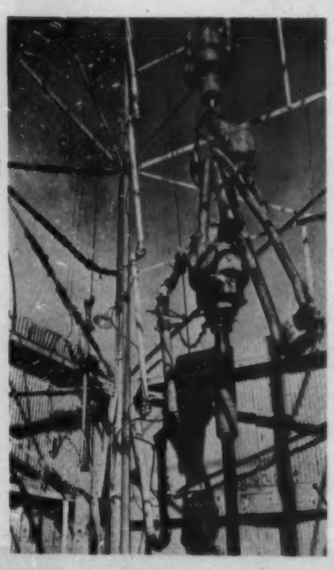
Mud Screen

While commenting on the drilling fluid, it is apropos to mention the use of a Lemco steam screen manufactured by Leahy McNeely Co. and distributed in California by the Baroid Sales Co. and the Republic Supply Co. The Lemco screen used on No. 1 Lillis-Welsh measures 4 by 6 feet and is installed at an angle of 26 degrees in such a manner that all drilling mud passes over it dur-



Titusville Acme 14x16x8¼-inch mud pumps in use at No. 1 Lillis-Welsh North Kettleman Oil & Gas Co.'s deep well

Chiksan Steel Rotary Hose in Use on World's Deepest Drilling Well



A 3" Chiksan Steel Rotary Hose is giving highly satisfactory service in drilling the world's deepest well at Ketteman Hills. Although frequently subjected to pressures as high as 1800 lbs., it shows no signs of leakage and is perfectly flexible at all times under these unusually severe operating conditions.

The Chiksan Hose is designed to provide the proper combination of rugged strength and light weight, together with unusual flexibility and simplicity of operation. The use of Alemite lubricated ball bearing joints assures long life and high efficiency. Scientific design, proper materials and skillful workmanship are embodied in its construction.

BUCK & STODDARD, INC.

DISTRIBUTORS:
555 South Flower Street, Los Angeles, California

Manufactured by
CHIKSAN OIL TOOL CO., FULLERTON, CALIF.

ing each round trip. The principal feature of the screen is a patented assembly which assures extra long life for the screen cloth as the screen is placed in the frame at the factory in such a manner that the screen cloth is under equal tension at all points. On No. 1 Lillis-Welsh a 30-mesh screen cloth was used during the drilling of the upper part of the hole and a 40-mesh screen in the lower part of the hole. The average life of the screen cloth on this job, approximated two months. The screen is driven by a 1-horsepower direct-connected Pyle National turbine through enclosed reduction gears and has a capacity of approximately 750 gallons of drilling fluid per minute when using a 30-mesh screen assembly. The use of screen enabled the drilling fluid to be kept in first class condition at all times and materially reduced the replacement of pump parts. The company found it necessary and advisable to use a screen in the drilling of No. 1 Lillis-Welsh as the Kreyenhagen shale is a brittle, hard, severaly laminated shale black in color and does not submit to grinding but is rather removed in particles or chips of various sizes, some being almost 1 inch in length.

Weight Indicators

In the drilling of an exceedingly deep well it is quite obvious that it is necessary to refrain from putting too much weight on the bit, especially when straight-hole drilling is both desirable and conducive to best results. Executives of the North Kettleman Oil & Gas Co. recognized the necessity of regulating the pressure on the bit and accordingly installed a Martin-Decker weight indicator, vernier and a mud pump gauge. This equipment, and the Sievers reamer, Lemco vibrating mud screen, Colox drilling fluid and the Crum & Brainard core barrel, together with excellent surface equipment, has been an important factor in the drilling of a straight hole. As a further prevention against crooked hole drilling, the company deemed it advisable to use Bettis protectors. With the increase in pressure as the hole got deeper, a Chiksan all-steel rotary hose consisting of seven joints of heavy 3-inch drill pipe connected by Chicksan ball-bearing alemite lubricated cast-steel joints, overall length 45 feet, was installed. This hose is suitable for pressures as high as 2,500 pounds per inch, with a safety factor of four.

Previous California Records

Wildcat exploration and progressively deeper drilling in proven fields have resulted in the establishment of new deep drilling records with clocklike regularity during the past several years. It is interesting to note in this connection that the California deep drilling record has been consistently exceeded for the last three consecutive years. In 1931 the Chanslor-Canfield Midway Oil Co. startled the world by drilling No. 2-A Hobson down to 10,030 feet before concluding drilling operations. This well, located in the San Miguelito Field, approximately midway between the prolific Ventura Avenue Field and the Rincon Field, was the first hole in the world to be carried down below the 10,000-foot level. It is interesting to look back a few years and recall that this same company broke the world's record in 1927 by carrying No. 96 Olinda in the Fullerton Field down to 8,201 feet. Today 8,000-foot producers are too common to command more than passing mention.

In 1932 the Western Gulf Oil Co. stepped out and broke the California drilling record by reaching a depth of 10,296 feet in No. 1 Bradley, a wildcat located in the Santa Maria district of Santa Barbara County. This test, located on a well defined and attractive anticline, was spudded in August 22, 1930, and abandoned September 10, 1931, because of a complicated fishing job, although the seemingly endless thickness of shale was also a contributing factor. The bit in No. 1 Bradley was still in Monterey shale when drilling operations were concluded and consequently the Vaqueros formation, which has been so prolific in the Elwood Field of Santa Barbara County, was not reached. The world's record for depth established by the North Kettleman Oil & Gas Co. was recorded during the current year so that new deep California records have been established during 1931, 1932 and 1933, included in which were two world's records. Unless production is developed sooner, or mechanical trouble develops, it is quite likely that the North Kettleman Oil & Gas Co. will wind up with a deep drilling record that will stand for some time to come. But then, did we not think the same thing a few years ago when the Chanslor-Canfield Midway Oil Co. reached the unprecedented depth of 8,201 feet?

Casing Records

In addition to holding the present world's record for depth, California operators have likewise established several existing records for the longest string of casing landed in a well. The Associated Oil Co. holds two of these records, having landed 4,800 feet of 16-inch casing and 7,258 feet of 11¾-inch casing in No. 130 Lloyd, a present producing well in the Ventura Avenue Field. The longest string of 13⅜-inch casing was landed and cemented in No. 1 Blauvelt of the North American Consolidated in the Kettleman North Dome Field. This company landed and cemented 6,766 feet of 13⅜-inch A.P.I. 68-pound casing. The pipe, weighing 459,884 pounds, was floated in with a Baker cement collar and a Baker whirler shoe in 18 hours and 45 minutes and cemented in 1 hour and 30 minutes. The Kettleman North Dome Association is believed to have landed the longest string of 9⅝-inch casing when 8,450 feet were landed and cemented in well No. 36-30 J in the Kettleman North Dome Field. The most recent casing record covering 7-inch pipe has been commented on above.

Ed McAdams Had Plenty of Experience Before He Achieved Record Depth

By L. G. E. BIGNELL
Petroleum Engineering Editor

One of the ambitions of Edward McAdams has been to drill the deepest rotary hole in the world and it has been realized in the drilling of No. 1 Lillis-Welsh in the Kettleman North Dome Field to a depth of 10,721 feet, at the latest report. The deepest well previously drilled was by the Penn Mex Fuel Co. in Mexico

ED McADAMS

which was abandoned at a total depth of 10,585 feet. It is planned to carry the No. 1 Lillis-Welsh test to 11,000 feet or deeper if showings are favorable.

Born in the West and receiving his early training in California oil fields, Ed McAdams was one of the second group of rotary drillers to be brought to Oklahoma back in 1916 to work for the Sinclair Oil & Gas Co. in the old Garber Pool. It is reported that the first rotary well to be drilled in Oklahoma was near Lucien, Okla., west of Perry, and it was undertaken by the old Roxana Petroleum Co. under the direction of Jack Bates then superintendent. Mr. Bates was from California and he decided to test the possibilities of rotary in Oklahoma and imported a rotary crew for this well, which proved to be a dry hole. However, the work of drilling was satisfactory and the Sinclair Oil & Gas Co. decided to adopt this system of drilling and the second group of drillers brought on from California for this purpose included Mr. McAdams. Another member of this crew was Hugh B. Hodges now engaged in the transfer and warehouse business in Tulsa.

Exploration was active in the Garber-Covington area in 1917 and Mr. McAdams was placed in charge of the rotary operations and additional outfits were purchased until by 1918 the Sinclair Oil & Gas Co. had 10 rigs running and the Roxana Petroleum Co. had three and the Carter Oil Co. two.

When the Duncan Field, in southern Oklahoma, was opened in 1919 Mr. McAdams moved down there and operated as a drilling contractor and completed many wells in that pool as well as in the Empire Field opened in 1920. This was the first field drilled by rotaries in Oklahoma and it was during this same period that Erle P. Halliburton developed the oil well cementing process in this State. Mr. McAdams' organization was known as the Western Well Drilling Co. and he was active head of it until about 1921 when sickness necessitated his return to California.

California Activities

After spending some time in recuperating his health Mr. McAdams again entered the drilling business, forming a partnership with Jimmy McKinney, who had recently sold out his interest in the Cement Field, Oklahoma, to the Magnolia Petroleum Co. and moved his tools to California.

This contracting company was active in the Signal Hill and Long Beach Fields under the name of the Marine Oil Co. and finally sold their holdings to C. C. Julian and the Blue Tank Group.

Upon selling his interest in the Marine Oil Co., Mr. McAdams found his services in demand by many of the major oil companies in California because of his vast experience in rotary work and because of his unusual ability in successfully shutting off water formations by cementing. He continued this consulting work actively in the Los Angeles Basin fields until 1930 and then for a time only accepted special jobs that appealed to him.

In 1932 he became interested in the work in Kettleman Hills where he had been called many times as a consultant and formed the North Kettleman Oil & Gas Co. to drill the deep test known as No. 1 Lillis-Welsh which started drilling in the early part of last year.

Through his unusual experience in rotary work Mr. McAdams has been able to carry this hole to the deepest depth ever made in well drilling and the hole is now in such excellent shape that it can easily be continued to below 11,000 feet if conditions justify the additional expenditure of money.

They are now drilling in a 5⅝-inch hole and 11,000 feet of 3-inch drill pipe was recently delivered to the location which would indicate that it is intended to continue drilling with this size bit. The well was surveyed every 100 feet to below 7,000 feet and this work indicated that it is very straight, so no mechanical troubles are anticipated in carrying it as deep as necessary.

LOUISIANA LEASES

SHREVEPORT, La., May 1.—Oil and gas leases on state lands, most of them in the Gulf Coast area, netted the State of Louisiana $49,401.56 for the first quarter of 1933. An additional $31,407.75 was realized from leases on sulphur lands. Cash bonuses on recent leases brought $6,450.

Equipment Used in Drilling the World's Deepest Well in Kettleman Hills

The equipment used on No. 1 Lillis-Welsh, the world's deepest well, located in Kettleman Hills, Calif., follows:

Allbestos brake lining 1x9 inch.
Baker Cement equipment.
Baash Ross nickel chromium steel upset kelly.
Baash Ross nickel chromium steel drill collar.
Baash Ross roller bearing kelly bushings.
Baash Ross rotary slips.
Bettis protectors, 3-inch.
Black 1⅛-inch wire rope.
Broderick boiler (one) 100 horsepower.
Byron Jackson, Wilson tongs.
Calmec cat line grip.
Chiksan (Hamer), 3-inch steel rotary hose.
Colox iron oxide drilling fluid.
Crum & Brainard, 5⅝-inch core barrels.
D. & M. pistons.
Emsco jack shaft, Type H 46 roller bearing drawworks.
Emsco Type D rotary table (all steel with 25-inch opening) with Thomson guard.
Emsco Type B, 6-inch oil cooled swivel.
Fairbanks Morse, 4x6 boiler feed pumps.
Foster Wheeler superheater.
Hill & Foster automatic cathead.
Hughes Tool Co., cone bits.
Ideal Ajax roller bearings, 12x12 twin drilling engines (Timken roller bearings).
Ideco derrick, 136 feet, 1,000,000 pounds capacity.
J. & L. casing, 6,710 feet of 11¾-inch 61-pound casing, and 9,642 feet of 7-inch extra heavy casing.
J. & L. drill pipe to 9,638 feet.
Lemco steam agitated vibrating mud screen (Baroid Sales Co.).
Lucey boilers (four) 100 horsepower.
Martin Decker weight indicator, vernier and mud pump gauge.
National 3-inch drill pipe below 9,638 feet.
Permutit (Co. of New York) water softener equipped with Neptune Trident Co. meter.
Regan 62-inch traveling block and 5-sheave crown block.
Regan casinghead (tested for 6,000 pounds pressure).
Sievers reamer, Security Engineering Co.
Shaffer blowout preventer.
Thermoid brake lining, 1x9 inch.
Titusville Acme 14x16x8¼ mud pumps (two).
Varco liners and valves.
Westinghouse generators for lighting (two 3 k.w. one 1½ k.w.).
Western Pipe & Steel, surface pipe to 1,275 feet.
Zublin bits.
Self installed water cooled drum.

Ordovician Wildcat Tests Are Most Interesting; Series of New Locations in North Texas

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., May 1.—Stanolind Oil & Gas Co.'s No. 1 Cowden, in Section 26, Block 45, Township 2s, T.&P. Survey, Ector County, has been disappointing so far, swabbing only about 50 bbls. per day, but perhaps mudded up and capable of producing far more than this when thoroughly cleaned of the heavy mud used in drilling the test. The discovery well, south offset to the Cowden test, was completed at 4,050 feet, flowing around 350 bbls. per day on choke. The second test should be good for at least this much and in order to force a better well than now showing it will be treated with acid. Total depth is 4,042 feet.

The other well drilling in the county is Landreth and The Texas Company's No. 1 Holt, Section 16, Block 43, Township 1n, T.&P. Survey, in the northern part of the county and in the Cowden area, opened by the Stanolind Oil & Gas Co. over a year ago and is at 2,350 feet in salt and anhydrite.

Gulf Production Co.'s No. 103 McElroy, Ordovician test, now drilling in Section 197, Block F, C.C.S.D.&R.G.N.G Survey, near the Crane-Upton County line, but in Upton County, is below 775 feet. It got a bad start and a new hole had to be drilled.

Humble Oil & Refining Co.'s No. 1 White and Baker, in Section 44, Block Z, T.C.R.R. Survey, Pecos County, another Ordovician test for the Permian Basin, is drilling below 1,550 feet. This test is west of the Yates Pool.

These Ordovician tests will be the most interesting wildcats drilling in West Texas during the next few months. Another Ordovician test to be drilled by Hancock and others near Carlsbad in Tom Green County will also come in for its share of attention.

Superior Oil Co.'s No. 1 Massie, in Section 26, Block UV, G.C.&S.F. Survey, approximately 2 miles east of the nearest shallow gas producer on the Todd ranch, 4 miles east of the deep unit wildcat drilled by Stanolind Oil & Gas Co. and others in quest of Ordovician production, which failed, is now fishing for tools in red rock. This is an interesting shallow test that may mean validation of leases for the company on the block held around the test. An Ordovician test on the block is expected to be drilled later.

Schleicher County

J. D. Wesner and others' No. 1 Nicks, in Section 77, Block LL, T.C.R.R. Survey, Schleicher County, being drilled by the Phillips Petroleum Co., is now cleaning out to total depth of 6,170 feet after having recovered bailer lost in hole four months ago. This test is drilling in quest of Ordovician production, and will be the most interesting due to its location in the southern tier of counties of the Permian Basin.

Eastland Oil Co., Phillips Petroleum Co., Atlantic Oil Producing Co. and Humble Oil & Refining Co. each hold a unit interest in the No. 1 Tisdale deep test in Section 29, Block M, G.H.&S.F. Survey, Schleicher County. Fourteen joints of casing were dropped in the hole and it is questionable whether they will be fished out and the hole carried any deeper. Instead of fishing, the string may be cemented off in order to drill by, if the unit holders deem it advisable.

Courtney-Pryor Pool

Cardinal Oil Co. of San Angelo, which owns considerable producing acreage in the Toborg-Tippett Pool, Pecos County, and which some time ago purchased a half interest in the two shallow wells and acreage in the Courtney-Pryor Pool, west of Fort Stockton, in the same county, has moved tools to this latter area with intention of cleaning out the two shallow producers in an effort to increase their production.

The two wells are pumping about 40 bbls. per day, but have done much better, consequently are capable of larger production if cleaned out. The first producer is bottomed at 1,404 feet and the second at 1,397 feet. They were completed in the fall of 1929. When the oil market improves Cardinal Oil Co. contemplates further development of the block in which the Phillips Petroleum Co. owns the other half interest.

The two wells are in Section 78, Block OW, Texas Mexican Railway Survey, and were drilled by the Phillips Petroleum Co. A 3-inch line connects the two wells with a tank car loading rack at Fort Stockton on the Santa Fe. The oil is shipped to McCamey by tank car where the Shell Pipe Line Co. takes it over for further transportation. Gravity of the oil is between 24 and 26 degrees and has .6 of 1 per cent sulphur content.

RANGER AND WICHITA FALLS

Burns and others' No. 2 York, in the T.E.&L. Survey No. 1,583, 3,700 feet southeast of production in Archer County, had a showing of oil in sand from 1,331-41 feet and another from 1,334-34½ meet. It drilled to 1,411 feet, setting 6⅝-inch casing at 1,407 feet. Estimates place the extension as good for 15 bbls. of oil with about the same amount of water. Another test will be drilled in the area immediately.

A. P. Kouri's No. 1 Mrs. C. A. Montgomery is an outstanding extension well 1½ miles west of Archer City in Archer County. It drilled sand showing oil from 1,113-16½ feet and is estimated good for 100 to 150 bbls. It filled up and flowed 70 bbls. in three hours. This well will extend production 1,200 feet in the new Kouri sand pool.

Stanolind Crude Oil Purchasing Co. has taken over from Waggoner Pipe Line Co., its Zacaquiesta ranch pool connections in Wilbarger County, west of the Rock Crossing Pool. These connections serve 41 wells on 11 leases, handling in the neighborhood of 570 bbls. per day.

Union Mining Co. and others' No. 1 Carter, in Section 70, B. A. Lands, Shackelford County, drilled oil sand from 634-37 feet and made an initial production of 48 bbls. This well is in an area drilled over with many dry holes in past years and opens another extension of shallow sand production in the well-known Sedgwick shallow area.

Verne Dumas and others' No. 1 Williams, deep test in Grayson County, shut down for several months at 4,942 feet, is now deepening. It is now down to 5,085 feet.

New Tests

Massey-Peters Oil Co. has leased 47,000 acres consisting chiefly of the J. Collier ranch of 33 sections, and has contracted to drill three shallow tests on the block. The first location is No. 1 O. L. Tucker in Section 4, F. P. Knott Survey, Childress County. The others will be in Section 109, B.S.&F. Survey, 4 miles southwest of Estelline and one in Section 185, 7 miles southwest of Estelline, Hall County. They will all go to 1,200 feet, the main objective being the 800-900-foot sand.

The Texas Company is to drill a series of wells on the Waggoner ranch in Wilbarger County, as per contract. Three new locations are removed one-half to 1 mile from production. Others will be staked later.

C. C. Lanier and others' No. 1 Dobkins, a wildcat drilling north of Gainesville in Cooke County, drilled plug and swabbed and bailed only a small showing of oil from 1,660-64 feet. It is now drilling below 1,754 feet. Elevation is 790 feet. The test formerly had a good showing of oil and created considerable interest, but the showing failed to materialize into a producer.

PANHANDLE DISTRICT

W. W. Woolsey and A. D. Devore are to drill a 4,500-foot test in Section 85, Block 2, B.&M. Survey, Randall County, 4 miles southeast of Amarillo. Material has been moved on location for derrick. The test will be equipped to go to 6,500 feet.

COMPLETIONS IN WEST TEXAS

Comanche County

Dave Duncan's No. 1 Cox, dry and abandoned, total depth 387 feet.

Howard County

Merrick and Lamb's No. 6 Chalk, top pay 1,703 feet, initial production 28 bbls. per day pumping, total depth 1,811 feet.

H. A. Frazier and others' No. 1 G. Hall, abandoned location.

Loving County

D. D. Thomas and others' No. 1 Jim Wheat, top pay 4,195 feet, initial production 23 bbls. per day flowing through casing, total depth 4,236 feet.

Glasscock County

Noel T. Lawson and others' No. 2 M. M. Edwards, dry and abandoned, total depth 3,103 feet.

Ward County

Renaud and Prettyman and others' No. 1-B University, dry and abandoned, total depth 3,100 feet.

Buck Sturm and Simms Oil Co.'s No. 2 R. H. Gill, top pay 2,494 feet, initial production 125 bbls., total depth 2,600 feet.

Winkler County

Sid Richardson and others' No. 1 W. F. Scarborough (recompleted), top pay 2,825 feet, initial production 127 bbls. per day flowing, total depth 3,243 feet.

COMPLETIONS IN WICHITA FALLS DISTRICT

Archer County

Fain and McGaha's No. 4 E. R. Fain, show oil 1,803-11 feet, initial production 25 bbls., total depth 1,811 feet.

The Texas Company's No. 1 Turbeville, dry and abandoned, total depth 1,613 feet.

C. W. Boler's No. 1 Portwood, dry and abandoned 1,425 feet.

Burns and Long's No. 1 Bohor, dry and abandoned, total depth 1,500 feet.

Burns and others' No. 2 York, show oil 1,339-40 feet, initial production 15 bbls. oil and 15 bbls. of water, total depth 1,409 feet.

Coffey Gerold's No. 1 Barrett, dry and abandoned, total depth 715 feet.

W. B. Hamilton's No. 1 Abercrombie, oil sand 1,145-55 feet, initial production 10 bbls., total depth 1,155 feet.

Helena Oil & Gas Co.'s No. 2 Ray, oil sand 1,123-26 feet, initial production 100 bbls., total depth 1,126 feet.

King and Krahenbuhl's No. 1 Ikard, oil sand 989-92 feet, initial production 41 bbls., total depth 992 feet.

Jesse Lincoln's No. 2 Ray, sand 1,118-28 feet, initial production 36 bbls., total depth 1,128 feet.

Stafford and Homer's No. 1 Longley, oil show 966-84 feet, initial production 8 bbls., total depth 984 feet.

The Texas Company's No. 3 Morrison, oil sand 1,312-17 feet, initial production 100 bbls., total depth 1,317 feet.

F. L. Wolf's No. 1 Andrews, oil sand

Wildcat Operations in West Texas

Week Ending May 1

BREWSTER COUNTY

Company, well, farm name, section and block—	Remarks:
Joiner's No. 1 McIntire, 853 ft. from S and 2,590 ft. from E, Sec. 31, Blk. 352, W. J. Mitchell Sur.	Underreaming at 800 ft.

CONCHO COUNTY

Beasley et al's No. 1 Waring Estate, 400 ft. from N and E, Sec. 163, T.&N.O. Sur.	T.D. 2,586 ft.; pumping 5 bbls. oil per day and some water.

CRANE COUNTY

Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line and 1,320 ft. from W line of Sec. 9, Blk. B-27, P.S.L. Sur.	Moving in material.

CROCKETT COUNTY

Stanolind Oil & Gas Co. et al's No. 1 Todd, 1,370 ft. from N and 1,320 ft. from E, Sec. 67, Blk. UV, G.C.&S.F. Sur.	T.D. 8,042 ft.; plugged back to 7,720 ft.; S.D.; may plug.
Superior Oil Co.'s No. 1 R. Massie, 2,640 ft. W of NW cor. of Sec. 14, G.C.&S.F. Sur., Blk UV, and located in Sec. 26	Fishing for tools 480 ft.

CULBERSON COUNTY

Miller Bros.' No. 1 fee, 1,980 ft. from N line and 660 ft. from E line of Sec. 61, Blk. 97, P.S.L. Sur.	T.D. 520 ft.

DAWSON COUNTY

Ray Albaugh et al's No. 1 John Robinson, 1,320 ft. from N and W, Sec. 46, Blk. M, E.L.&R.R. Sur.	Bailing hole; T.D. 735 ft.

ECTOR COUNTY

Cherry et al's No. 1 Johnson, 1,320 ft. from S line and 660 ft. from E line of Sec. 41, Blk. 43, Twp. 1s, T.&P. Sur.	Drlg. 1,530 ft.
L. C. Harrison et al's No. 1 Addis, 330 ft. from N and 1,320 ft. from W, Sec. 35, Blk. 43, Twp. 2s, T.&P. Sur.	Flowing average of 275 bbls. oil per day to tanks; T.D. 4,061 ft.
Landreth Prod. and The Texas Company's No. 1 Holt, 660 ft. from S line and 2,025 ft. from E line of Sec. 16, Blk. 43, Twp. 1n, T.&P. Sur.	Drlg. plug 1,840 ft.
Stanolind O. & G. Co.'s No. 1 Cowden, 330 ft. from S and 1,320 ft. from W, Sec. 26, Blk. 45, Twp. 2s, T.&P. Sur.	T.P. 3,816 ft.; swabbing 50 bbls. of oil per day; T.D. 4,042 ft.
Fred Turner's No. 1-A Addis, 1,650 ft. from N line and 2,300 ft. from E line of Sec. 35, Blk. 45, Twp. 2s, T.&P. Sur.	Fishing 825 ft.

(Continued on Page 47)

890-95 feet, initial production 20 bbls., total depth 895 feet.

Jack County

Root Drilling Co.'s No. 2 Coleman-Leach, dry and abandoned, total depth 583 feet.

William Wallace's No. 1 Moore, dry and abandoned, total depth 556 feet.

Wichita County

George Proctor's No. 1 R. O. Harvey, dry and abandoned, total depth 1,304 feet.

Kimble and Bostic's No. 5 Haines, oil sand 291-99 feet, initial production 4 bbls., total depth 299 feet.

Morris and Dunn's No. 7 Sheldon-Woodruff, dry and abandoned, total depth 853 feet.

Wilbarger County

The Texas Company's No. 413 Waggoner, dry and abandoned, total depth 1,055 feet.

Young County

Fitzwater's No. 1 Cunningham, dry and abandoned, total depth 838 feet.

Fresno Oil Co.'s No. 1 Prideaux, oil sand 658-61 feet, initial production 14 bbls., total depth 661½ feet.

Fresno Oil Co.'s No. 2 Prideaux, dry and abandoned, total depth 734 feet.

Fresno Oil Co.'s No. 3 Prideaux, oil sand 645-63 feet, initial production 8 bbls., total depth 666 feet.

Hawkins and Gilmore's No. 2 Garrett, dry and abandoned, total depth 592 feet.

Charles J. Kleiner's No. 3 Logan, dry and abandoned, total depth 661 feet.

Scholl and Andree's No. 1 Morris, dry and abandoned, total depth 570 feet.

Worth Oil Co.'s No. 8 C. Garrett, oil sand 508-26 feet, initial production 8 bbls., total depth 528 feet.

COMPLETIONS IN RANGER

Callahan County

Henry House's No. 4-A Finley, dry and abandoned, total depth 458 feet.

Kamon and Thorley's No. 1 Long, dry and abandoned, total depth 950 feet.

Sample's No. 2 Finley, dry and abandoned, total depth 426 feet.

Coleman County

Arcadia Refining Co.'s No. 6 Gholson, oil sand 1,596-1,613 feet, plugged back to 1,605 feet, initial production 50 bbls., total depth 1,613 feet.

Anderson-Taylor's No. 1 Stewardson, show oil 1,686-95 feet, initial production 40 bbls., total depth 1,695 feet.

Schaffer's No. 4 Watson, dry and abandoned, total depth 1,531 feet.

Brown County

S. E. Herring's No. 1 McDaniels, dry and abandoned, total depth 1,603 feet.

Dodgens' No. 1 Mitchell, dry and abandoned, total depth 950 feet.

Tex-Cal Oil Co.'s No. 6-B Morten, show oil 988-90 feet, initial production 5 bbls., total depth 990 feet.

Eastland County

Texas Pacific Coal & Oil Co.'s No. 12 fee, top pay 2,938 feet, shot 100 quarts 2,955-95 feet, initial production 65 bbls., total depth 3,008 feet.

Conway Brothers' No. 1 Rooch, gas sand 1,280-82 feet, initial production 2,570,000 feet of gas, total depth 1,339 feet.

Palo Pinto County

O. P. Coffman's No. 1 Effie Bluker, gas sand 701-10 feet, initial production 1,774,000 feet of gas, total depth 701 feet.

Milling and others' No. 1 Stokes, dry and abandoned, total depth 1,700 feet.

Shackelford County

Bagnoll's No. 1 Davis, dry and abandoned, total depth 1,815 feet.

Dickey Brothers' No. 1 Moberly, dry and abandoned, total depth 576 feet.

Jupiter Oil Co.'s No. 1 Haterces, dry and abandoned, total depth 2,008 feet.

Roeser and Pendleton's No. 3-201 Morris-Buie, dry and abandoned, total depth 1,895 feet.

Union Drilling Co.'s No. 1 Carter, sand 634-37 feet, initial production 48 bbls., total depth 637 feet.

Wittiken's No. 1 Reynolds, show of oil 1,230-35 feet, initial production 82 bbls., total depth 1,235 feet.

COMPLETIONS IN PANHANDLE

Hutchinson County

Joe Murphy's No. 1 Walkins, top pay 2,909-74 feet, initial production 270 bbls. first 24 hours after shot, total depth 2,974 feet.

H. Stekol's No. 1 Whittenburg, pumped 75 bbls. first 24 hours, total depth 2,996 feet.

Gray County

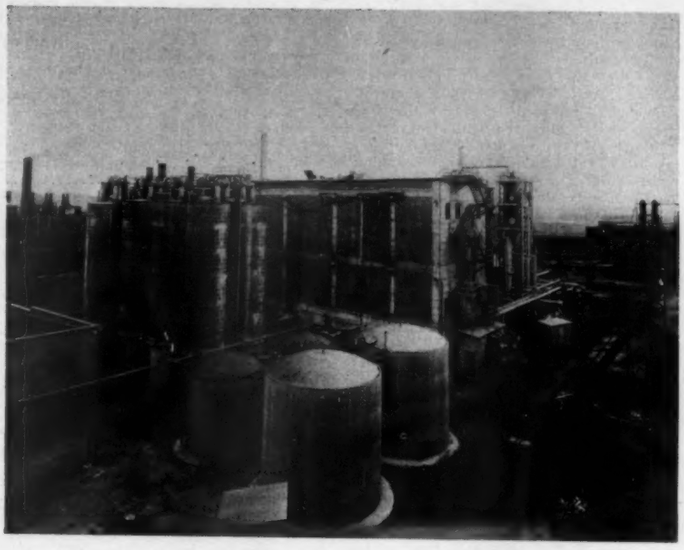
Gray County Production Co.'s No. 1 Huseley, top pay 2,625-35 feet and 2,755-76 feet, initial production 20 bbls. oil and 2,000,000 feet of gas, total depth 2,790 feet.

Self-Refrigeration Through Use of Propane Aids Quality

(Continued from Page 11)

pleted a 21-day continuous run during which a throughput of nearly 500,000 bbls. was recorded. The yield from this unit was 70 per cent gasoline of 65 C.F.R. Motor Method octane rating.

The lubricating oil produced by the methods described here, according to the company technologists, have an unexcelled viscosity-temperature coefficient. This viscosity-temperature relationship, or viscosity index, is discussed by Davis, Lapeyrouse and Dean in the March 31, 1932, issue of The Oil and Gas Journal, and also by Ferris and Houghton in the November 17, 1932, issue, and by Mougey in the September 20, 1928, issue. Ferris and Houghton point out that lubricating oils of low viscosity-temperature coefficient are usually referred to as paraffinic, while those of rapid viscosity change are termed naphthenic. Very little can be done to raise the viscosity index of naphthenic oils, but Mid-Continent and other mixed base oils can be made into lubricants of unsurpassed viscosity index by the chlorex extraction method, and which have the additional advantage of considerably lengthened "sludging time" and lower Conradson carbon residue. The articles cited point out the numerous advantages of lubricating oils having a high viscosity index and small viscosity-gravity constant.



Equipment used to process the new propane chilled lubricants. In the background is the filter plant; in the left center, the 8-propane storage and filtrate receivers and in the foreground the stock tanks and wax receivers

Important Developments in Marketing Expected

(Continued from Page 27)

markets, freight allowed, are rising gradually after a subnormal period when price concessions were made in the coal tar products to meet petroleum competition. The Chicago delivered price on these products are: 90 per cent benzol, 22 cents a gallon; 90-95 per cent toluol, 26 cents a gallon, and 95 per cent xylol, 32 cents a gallon. One marketer will soon begin offering a petroleum naphtha which gives exceptional dimethyl sulphate, kauri-butanol and aniline point tests, in the lacquer diluent class. Prices are unchanged and it is apparent that sellers are marking time to await developments in crude oil production.

Kerosene Tank Car Markets

The kerosene tank car markets continue to advance pricewise, although the tank wagon markets are behaving erratically due to strong competitive developments throughout a large part of the territory. The price spreads have widened an eighth of a cent as a larger number of refiners moved up their postings an eighth of a cent. Monday's prices were 2⅝ to 2⅞ cents for the 41-43 water white material and 2¾ to 3 cents for the 42-44 water white kerosene.

Fuel Oils and Distillates

Fuel oil and gas oils are slow, although increasing activity at the steel mills is improving the outlook for the heavier materials of low sulphur content. Gas oils are in little demand and most of this material is going to the crackers to produce the high octane gasoline offered at the service stations. There is still the possibility that open market prices in the fuels and distillates will take on a more bullish tone as a result of currency affairs at Washington. This week several of the fuel oils settled down to a narrower range as follows: 26-28 zero fuel oil moved down to a range of 60 to 65 cents, and 22-26 zero fuel oil moved down to a range of 50 to 55 cents.

Refined Wax Developments

The refined wax markets in the Standard of Indiana territory are reflecting the continued betterment in the East Coast export markets. The increase in refined wax imports is laid principally to the abandonment of the gold standard by the Government. In this connection it may be pointed out that there is a larger movement of gasoline into Canada due to the changed status of the American dollar in world trade. Prices in refined waxes are unchanged in this domestic market, but an advance is anticipated.

OFFICERS RE-ELECTED

OIL CITY, Pa., May 1.—All officers and directors of the National Transit Co. were re-elected at a meeting here today.

National Bank of Tulsa Has Powerful Backing

(Continued from Page 8)

rency, the Secretary of Treasury and the Federal Reserve Bank have been met. This institution, with its $8,000,000 of new capital funds, gives Tulsa one of the largest banks in the Southwest."

Customers Well Pleased

The news was agreeably received in Tulsa. The announcement was carried in the Tuesday morning papers and throughout the day the bank officials and directors were receiving the congratulations of the bank's customers.

It is well known in Washington that Tulsa is the recognized financial center of the Mid-Continent oil industry and it is the general belief that this fact influenced the Reconstruction Finance Corp. in approving the expansion of the Exchange National Bank into a new and a larger bank more able to serve the oil interests of Kansas, Oklahoma, Texas, New Mexico, Louisiana and Arkansas.

Influence as a Builder

The effect of the reorganization on the future of Tulsa should show itself with steadily increasing force as the oil business emerges from the slump it has suffered in common with all other industries. The old bank for 25 years had been a mighty influence in the building of the city as well as the expansion of the Mid-Continent oil field. The new bank, with its vastly greater capitalization, and strengthened directorate, has every reason to look forward to an even greater degree of usefulness than its predecessor. The National Bank of Tulsa comes as near to being a government bank as the laws of the country will permit.

ROCKY MOUNTAIN RUNS

Average daily pipe line runs from fields in the Rocky Mountain territory for the week ending April 29 follow:

	Bbls.
WYOMING	
Salt Creek	18,770
Big Muddy	1,840
Badger Basin	50
Byron Garland	120
Dallas-Derby	490
Dutton Creek	70
Elk Basin	600
Ferris	20
Frannie	240
Grass Creek	1,690
Greybull	10
Hamilton Dome	730
Hudson	350
La Barge	950
Lance Creek	200
Lost Soldier	1,730
Midway	90
Oregon Basin	200
Osage	1,000
Pilot Butte	30
Rock River	1,530
Poison Spider	120
Teapot	30
Total Wyoming	30,840
MONTANA	
Buckley-Border	330
Cat Creek	660
Cut Bank	250
Dry Creek	50
Kevin-Sunburst	2,640
Lake Basin	60
Pondera	990
Total Montana	5,030
COLORADO	
Florence	200
Fort Collins and Wellington	580
Iles Dome	510
Moffat	630
Orchard	100
Rangely	50
Tow Creek	250
Total Colorado	2,320
NEW MEXICO	
Artesia	552
Caprock	987
Hogback	245
Jal	1,139
Table Mesa	80
Eunice	455
Hobbs	26,905
Lea	2,443
Texas-Pacific	99
Rattlesnake	675
Total New Mexico	35,580
Total Rocky Mountain area	73,820
Total previous week	72,498
Difference	1,322

Application for New Injunction in East Texas

(Continued from Page 16)

formation amount to 943,000 bbls. This would indicate an excess production of 474,000 bbls., and would represent a permitted production of 350,000 bbls. more than the last order of the railroad commission. This action has caused the price of oil to fall from a 50-cent posted price to 10 cents a barrel and, as a result, financial destruction has overtaken the owners of leases and royalty in the East Texas Field.

Commission Responsible

"I want to emphasize and ask everybody not to forget that the increased allowable suddenly precipitated by the railroad commission preceded the drop in price of oil and therefore that order was the cause of 10-cent oil. If it be urged that the railroad commission has acted ill-advisedly or from a want of information, then I submit that the fact remains that it was one of the most ill-advised official actions that has taken place in Texas in many years.

"In the face of the fact that the Federal authorities have advised that Texas should not be allowed to produce more than 860,000 bbls. a day [Note: Recommendation of Committee of 15 at Washington conference was 786,242 bbls.] and that therefore, as a result of the commission's order, there is an excess of more than 558,000 bbls. in the minds of Federal authorities, the eyes of the nation are on us and if something is not done and done promptly we can expect the introduction of Federal authority to control our oil fields.

"It appears that some people, with a show of temper, are opposed to my being allowed to appoint a separate commission to take over the authority of the present commission, which has produced 10-cent oil. Let me answer this statement by saying that I am not seeking the power to appoint this commission if the legislature sees fit to create it, but at the same time I am not shirking responsibility or action that now is imperative to meet a desperate situation.

Will Give Up Appointive Power

"If there be those who want to divide the power to appoint the commission, I invite them to add to the power of appointment of the commission the speaker of the house of representatives and the lieutenant governor, giving them a majority in the selection of the commission. In fact, I will be pleased to have these two worthy public servants share with me the great responsibility of appointing this important commission to compose the situation.

"I am taking the liberty to transmit this message only in view of the fact that the charge is being made in many quarters that I was seeking to dominate the situation by having the power of majority appointment.

"I want to emphasize that the present situation produced by the unexpected 750,000-bbl. order by the railroad commission has produced a grave situation which, I trust, the legislature will deal with promptly.

"I call on the railroad commission to reduce the 750,000-bbl. allowable order and I demand that the oil companies restore the price of oil."

ANGLO-PERSIAN SETTLEMENT

An agreement in principle has been reached in the Anglo-Persian oil dispute. The agreement provides, it is reported, that instead of 16 per cent of the Anglo-Persian Oil Co.'s profits, as at present, the Persian government shall receive four gold shillings a ton for the oil extracted. The Anglo-Persian Oil Co. undertakes to extract a minimum of 5,000,000 tons annually (approximately 7 bbls. equal 1 ton) assuring to Persia a minimum of £1,000,000 in gold ($4,850,000) a year. The company also assents to a payment of £2,000,000 in settlement of the Persian government's claims, plus tax arrears for which Persia has been contending.

To Make Research Report at Tulsa A.P.I. Meeting

Parker D. Trask, director of the American Petroleum Institute Research Project No. 4, will make a report on "Results of the Institute's Research Project on Origin and Environment of Source Sediments," at the Tulsa meeting, Friday morning, April 19. The third quarterly report for 1932-1933 has been prepared by Director Trask and Harald E. Hammer and W. Ross Keyte, junior research associates who have been working at the Bureau of Standards in Washington. Two assistants, R. W. Gillespie and R. V. Hughes have been working with Mr. Hammer since early in the year in the preparation of chemical analyses. More room has been provided for work, and the organic content of more than 200 samples has been determined, while detailed analyses has begun on a series of 10 sediments from Santa Fe Springs, Calif., East Texas and Oklahoma. Mr. Keyte has received 1,500 samples from eight wells along the Gulf Coast from southern Texas to central Louisiana, and about one-third have been analyzed, along with the completion of preliminary work on samples received from central Kansas, eastern Colorado, central Oklahoma and West Texas. Mr. Trask has been compiling data, examining sediments from California, and preparing two papers for publication on sediments of four typical American oil fields and on source beds of petroleum in the Mesozoic rocks on the west side of the Sacramento Valley, California. The research workers are determining organic contents of sediments by a new method recommended by S. A. Waksman that has been tested and found satisfactory. The new method provides for measuring the state of oxidation of the organic constituents of the sediments, and is held to be rapid, reliable and simple, requiring only a small amount of apparatus and permitting the completion of from 40 to 50 analyses a day, with few duplicate determinations required.

Along with the research report at the Friday morning meeting will be presentation of papers on application of the jet pump to oil well pumping, study of bottom hole samples of East Texas crude, study of subsurface pressures and temperatures in flowing wells in East Texas and application of these data to vertical flow and sand performance.

In the final group session to be devoted to proration problems, W. K. Whiteford, Barnsdall Oil Co., will preside, and papers will be presented on "The Relation of Price to Proration," "Economic Benefits of Proration," and "Labor Proration." E. H. Griswold, Continental Oil Co., will discuss the economic benefits of proration. W. F. Rogers, Gulf Production Co., will read a paper setting forth a "Survey of Special Alloys for Use as Tubing and Working Barrels in the Gulf Coast" at the same session.

Richfield Strengthens Its Position in East

NEW YORK, May 1.—The Richfield Oil Corp. of New York today took over all of the distributing agencies formerly operated by Sherwood Brothers of Baltimore in Pennsylvania for the distribution of Richfield products. About 75 stations and 550 dealer accounts were involved in the transaction.

The acquisition gives the Richfield corporation a heavy representation in the Philadelphia market as well as in other parts of the State.

Sherwood Brothers will continue to market Richfield products through their own and independent stations in Maryland and Delaware.

DEATH OF ABE JOSEY

Abe Josey died on Monday, April 24, at his home in Shreveport, La., age 69 years. Mr. Josey retired last year from his position with the Standard Oil Co. of Louisiana after years of service in the land and leasing department, which he headed for a part of the time. Mr. Josey was credited with having drilled the first gas well in Louisiana many years ago.

East Central Texas Wildcats

(Continued from Page 14)

Sun Oil Co.'s No. 5 A. G. Morton, 330 ft. from W line of lease and 1,320 ft. N of No. 4, S. Baggett Sur. ....Waiting on cmt. to set 3,477 ft.
L. W. Tarkington's No. 1-A Mrs. A. M. Greggston, 187 ft. N of Johnston's No. 1 Greggston and center of N and S lines of lease, M. Dillard Sur. .....Derrick.
J. E. Webb's No. 1 Ed Mitchell, 1,650 ft. from S line and 200 ft. from E line of survey, J. S. Carrithers Sur. .....Testing; T.D. 3,601 ft.

HILL COUNTY

Spikes et al's No. 1 Holman, 150 ft. from NW cor. of 100-ac. tract, one-half mile S of Mt. Calm, Latham Sur. .....Prepare to spud.

HOPKINS COUNTY

E. P. Corley's No. 1 Jumper .....Moving in rig; T.D. 1,630 ft
Culberson & Lynch's No. 1 Louis Stribling, 150 ft. from NW cor. of tract and lease, Thomas Norris Sur. ..Rig up.

KAUFMAN COUNTY

Sizy-Bentley-Brewer et al's No. 1 J. B. Hunter, 300 ft. from S line and 150 ft. from SE line of 500-ac. tract, 4 miles S of Terrell, R. Sowell Sur. .....T.D. 700 ft.

LIMESTONE COUNTY

C. C. Curtis et al's No. 1 Emma Daniels, 150 ft. from W line and 150 ft. from S line of 42.5-ac. tract in Pedro Varela Sur. .....Set surface csg. 60 ft.

RED RIVER COUNTY

Ajo Oil Co.'s No. 1 Nickels & Daniels, center of S 780 acres of 1,808-ac. tract, 8 miles N of English, Hugh B. Shaw Sur. .....Bldg. derrick.

RUSK COUNTY

Chicago Oil Co.'s No. 2 C. O. Christian, 175 ft. from S line and 1,125 ft. from E line of survey, J. S. Whiteman Sur. .....Rig up.
Devonian Oil Co.'s No. 16 Motley, 990 ft. from S line and 2,920 ft. from E line of survey, William Killern Sur. .....Set surface csg.
Griffin & Barnes' No. 1 fee, 12 ft. from S and W lines of 2-ac. tract, J. B. De Cadena Sur. .....Waiting on cmt. to set.
H. B. W. Oil Co.'s No. 3 Redwine, 150 ft. from E line and center of Payne's No. 1 Redwine, Juan Ximenes Sur. .....Derrick.
Humble Oil & Refining Co.'s No. 22-A S. A. Plowman, 1,490 ft. from S line and 1,105 ft. from W line of 220-ac. lease, F. Cordova Sur. .....S.D. 136 ft.
Jordan & Ramsey's No. 1 L. W. Prior, 330 ft. from N line and 467 ft. from E line of 55-ac. lease, Walker Pettit Sur. .....Rig up.
Kimble & Acre's No. 1 Frederick, 150 ft. from S line and center of E and W lines of 10-ac. lease, Juan Ximenes Sur. .....Derrick.
Walker Murray et al's No. 1 W. H. Arnold, 320 ft. from S and W lines of 50-ac. tract, Levi N. Sparks Sur. .....Drlg. 1,805 ft.
Olson Bros.' No. 6 J. T. Brown, 300 ft. from N line and 700 ft. from W line of lease, M. J. Pru Sur. ....Derrick.
Overton Refining et al's No. 1 Morris, 910 ft. N and 26 ft. W of SE cor. of Marcus tract, W. R. Cooke Sur. ..Drlg. 1,225 ft.
Roberts Bros.' No. 1 W. P. Brightwell, 2,490 ft. from N line and 620 ft. from W line of survey, R. E. Winn Sur. .....Waiting on cmt. to set; T.D. 3,675 ft.
J. I. Roberts and Murphy's No. 1 W. P. Brightwell, 2,800 ft. from N line and 380 ft. from W line of survey, R. E. Winn Sur. .....Waiting on cmt. to set; T.D. 3,665 ft.
Ross Seward's No. 1 Burton, J. J. Y'Barbo Sur. .....T.D. 3,347 ft.
Snyder et al's No. 2 Stewart, 174 ft. NW of No. 1 and 190 ft. SE of C. L. Archer's No. 1 J. H. Stewart, John Womack Sur. .....Derrick.
Westheimer and Daube's No. 4 Brightwell, 150 ft. from S line and 3,010 ft. from W line of survey, E. G. Sevier Sur. .....Rig up.

SMITH COUNTY

E. G. Byers' No. 1 L. Jackson, 330 ft. from S line of lease and midway between E and W lines of 25-ac. tract, E. Daniels Sur. .....Drlg. 3,140 ft.
Long Drilling Co.'s No. 3 G. A. Turner, D. W. Campbell Sur. .....Derrick.
Stanley Lewis' No. 1 Cemetery Lot, 7,390 ft. from E line and 2,620 ft. from N line of survey, Juan Vargas Sur. .....Drlg. 2,600 ft.

TITUS COUNTY

Randua Newberry et al's No. 1 First State Bank, 1,391 ft. from S and 2,410 ft. from E line of James T. Box Sur. .....S.D. 2,591 ft.
R. L. Pevets and Fred Prince's No. 1 W. H. Crawford, 2,600 ft. from S line and 309 ft. from W line of 160-ac. tract, 1 mile S of Talco, I. P. Stern Sur. ....Plugging to abandon; T.D. 3,423 ft.

UPSHUR COUNTY

Wadley and Evans' No. 1 W. S. Jones, 330 ft. from S and E lines of 100-ac. lease, James M. Dunn Sur. ...T.D. 3,690 ft.; swabbed salt water; swabbing.
Wadley-Evans-Lyons et al's No. 1 Shuttlesworth, 2,229 ft. E and 300 ft. S of NW cor. of Shuttlesworth 160 acres, J. M. Dunn Sur. .....T.D. 3,724 ft.; top of sand 3,722 ft.; on drill stem test 3,710-24 ft.; made 500 ft. of oil and 50 ft. of salt water in 25 minutes.

VAN ZANDT COUNTY

Everett et al's No. 1 J. J. Goode, 165 ft. from N line of lease and 1,600 ft. from W line of survey, 2 miles S of Van, David Rose Sur. .....S.D. 450 ft.
Golf Oil Co.'s No. 1 Gillentine, 150 ft. from S and E lines of E 4 acres of 42-ac. tract in Nacogdoches County School Land Sur. .....Rig up.
Golf Oil Co.'s No. 1 S. R. Stone, 150 ft. out of SW cor. of 92-ac. tract .....Spudding.
Manning & Collins' No. 1 Mrs. Mollie High, center of 5-ac. tract, 2 miles NW of Myrtle Springs in William H. Bunch Sur. .....Derrick.
Petroleum Pipe Line Co.'s No. 1 Mrs. S. S. McGee, 173 ft. from N and W lines of 53-ac. tract in Blk. No. 2, William Daniel Sur. .....Testing 600 ft. oil in hole; T.D. 1,277 ft.
Pure Oil Co.'s No. 3 D. O. Mayo, 200 ft. N of S line and 225 ft. E of W line of D. O. Mayo 29.5-ac. tract, J. Prado Sur. .....Waiting on cmt. to set.
Pure Oil Co.'s No. 2 R. M. Butler, 150 ft. from N and 793 ft. from W lines of 89.16-ac. tract in David Rose Sur. .....T.D. 3,010 ft.; plugged back to 2,998 ft.
Roy Stumpff's No. 1 M. I. Riggs, 160 ft. from E line and 350 ft. from S line of tract No. 3 and 330 ft. from E line of lease, 4 miles NE of Van, William Daniel Sur. .....Drlg. 2,850 ft.
Rowland and Naylor's No. 1 Moore Grocery, 163 ft. from W line and 1,563 ft. from E line and center of N and S lines of 116-ac. tract, William Daniel Sur. ....Rig up.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. .....T.D. 2,850 ft.; skid 50 ft. W and set 10-in. csg. at 181 ft.; waiting on cmt.

WOOD COUNTY

Hull & Short's No. 1 T. H. Peterson, 600 ft. from S line and 300 ft. from E line of 320-ac. tract and survey, 4 miles E of Mineola, W. B. McNutt Sur. .....S.D. 3,350 ft.

Wildcat Operations in West Texas

(Continued from Page 44)

Thomas et al's No. 1 Edwards, 330 ft. from S, 2,310 ft. from E, Sec. 38, Blk. 42, Twp. 3s, T.&P. Sur. ..... Set casing at 3,327 ft.

FISHER COUNTY

Cranfill & Reynolds' No. 2 George, 330 ft. from N and W lines of NE of Sec. 200, Blk. 1, B.B.B.&C. Sur. ... Drlg. 2,090 ft.

Southern Oil Co.'s No. 1 Beavers, 330 ft. from W and 660 ft. from S of S half of SW Sec. 193, B.B.B.&C. Sur. ..... Drlg. 1,520 ft.

GARZA COUNTY

F.H.E. Oil Co.'s No. 1 Stoker ..... T.D. 2,909 ft.

GLASSCOCK COUNTY

R. T. Helms' No. 1 Hilger, 330 ft. from N line and 330 ft. from E line of Sec. 18, Blk. 34, Twp. 3s; T.&P. Sur. ..... Underreaming 727 ft.

Humble Oil & Refining Co.'s No. 1 Washer, 330 ft. from N line and 330 ft. from E line of Section 20, Blk. 33, Twp. 2s, T.&P. Sur. ..... Plugged back to 1,110 ft.; waiting on cmt. to set.

H. O. Wooten's No. 2 W. P. Edwards, 1,650 ft. from E line and 330 ft. from S line of Sec. 17, T.&P.R.R. Sur., Blk. 33, Twp. 1s ..... Drlg. 665 ft.

HOWARD COUNTY

M. D. Bryant et al's No. 1 L. C. Denman, 2,310 ft. from S and W lines of Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 1,400 ft.

Eppenauer et al's No. 1 Leatherwood, C of SE of NW, Sec. 25, Blk. 33, Twp. 1s, T.&P. Sur. ..... Material on ground.

L. C. Harrison's No. 4 L. C. Denman, 2,370 ft. from the E line and 2,325 ft. from S line of Sec. 10, T.&P.R.R. Sur., Blk. 30, Twp. 1s ..... Rig up.

Mid-Continent Pet. Co.'s No. 2 Denman, 330 ft. from S and E of Sec. 10, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 2,498 ft.

Myers et al's No. 1 Denman, 2,305 ft. from S and 2,320 ft. from E, Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 2,185 ft.

Plymouth Oil Co.'s No. 8 Kloh-Abrams, 1,650 ft. from N and 2,310 ft. from W line of Sec. 5, Blk. 32, T.&P.R.R. Sur. ..... Pumped 1,353 bbls. oil in 24 hrs.; T.D. 2,303 ft.

Sinclair Prairie Oil Co.'s No. 1 Denman, 330 ft. from N line and 330 ft. from W line of Sec. 14, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 1,470 ft.

Sinclair Prairie Oil Co.'s No. 6 Dodge, 330 ft. from S line and 330 ft. from W line of Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Drlg. 1,450 ft.

Sinclair Prairie Oil Co.'s No. 5 Dodge, 2,310 ft. from N and 330 ft. from W, Sec. 11, Blk. 30, Twp. 1s, T.&P. Sur. ..... Swabbing 50 bbls. per day; T.D. 2,815 ft.

Jack Wallace et al's No. 1 Scott, 990 ft. from N and 330 ft. from E lines of Sec. 93, Blk. 29, W.&N.W. Sur. ..... Drlg. 840 ft.

IRION COUNTY

Perry Fox's No. 1 W. C. Lawhorn, 200 ft. from N and 500 ft. from W of Sur. No. 731 ..... Drlg. 545 ft.

Straughn et al's No. 1 Kaiser, 1,980 ft. from N and 1,320 ft. from W, Sec. 69, H. Cooper Sur. ..... S.D. 1,180 ft.

JONES COUNTY

Condor Pet. Co.'s No. 1 Holt, 1,900 ft. from S and 1,800 ft. from W, Sec. 4, Blk. 20, T.&P. Sur. ..... Moving in machine.

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Moving in tools.

Johnson's No. 1 Huddleston, 165 ft. from S and W of N half of N half of Sec. 39, Blk. 18, T.&P. Sur. ..... Running casing 2,505 ft.

Shaheen Oil Co.'s No. 1 Sandlin, 1,320 ft. from S and E lines of Sec. 8, in Mrs. Louisa Matthews Sur. No. 7.. S.D. 1,150 ft.

Smart & Reynold's No. 1 Reynolds, 2,500 ft. from N and 150 ft. from W, Sec. 2, W. T. Scott Sur. No. 3... S.D. 1,458 ft.

LOVING COUNTY

A. & M. Pet. Corp.'s No. 1 Wheat, 2,310 ft. SW, 990 ft. SE, Sec. 71, Blk. 1, W.&N.W. Sur. ..... Cellar.

Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 328 ft. from SE of NW of N half Sec. 4, Blk. 3, W.&N.W. Sur. ..... Rigging up standard tools.

Goldman et al's No. 2 Allen, 330 ft. from NW, 2,310 ft. from SW, Sec. 90, Blk. 1, W.&N.W. Sur. ..... Rig.

Goldman et al's No. 1 Reagan-McElvain, 330 ft. from NE, 2,310 ft. rrom NW, Sec. 84, Blk. 1, W.&N.W. Sur.. Cellar.

PECOS COUNTY

A. & M. Pet. Co.'s No. 1 University, 1,725 ft. from S line and 330 ft. from E line of Sec. 21, Blk. 16, University Sur. ..... Underreaming at 520 ft.

Bennett et al's No. 1 Powell, 330 ft. from SW and SE, Sec. 76, Blk. 10, H.&G.N. Sur. ..... T.P. 1,686 ft.; cleaning out; T.D. 1,725 ft.

Cochran et al's No. 1 Pecos Valley Co., 1,650 ft. from SE and SW lines of Sec. 34, Blk. 3, H.&T.C. Sur. .... Flowing 35 bbls. of oil per day; T.D. 1,575 ft.

Humble Oil & Ref. Co.'s No. 1 White-Baker Co., 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C.R.R. Sur. ..... Fishing 1,428 ft.

Kimberlin et al's No. 1 B. D. Gregg, 2,488 ft. from NW and 150 ft. from NE, Sec. 101, Blk. 10, H.&G.N. Sur.. Spudding.

Wahlenmaier et al's No. 1 Monroe, 6,060 ft. W and 330 ft. N from SE cor. of Sec. 41, Blk. 1, I.&G.N. Sur. ... Drlg. 1,210 ft.

REAGAN COUNTY

Big Lake Oil Co.'s No. 8-C University, 710 ft. from S and 2,410 ft. from E, Sec. 12, Blk. 2 ..... Flowed 2,073 bbls.; T.D. 8,800 ft.

Big Lake Oil Co.'s No. 9-C University, 2,410 ft. from N and 765 ft. from E, Sec. 12, Blk. 2 ..... Drlg. 8,400 ft.

Big Lake Oil Co.'s No. 10-C University, 2,025 ft. from S and 375 ft. from W, Sec. 25, Blk. 9 ..... Drlg. 4,005 ft.

Big Lake Oil Co.'s No. 11-C University, 2,300 ft. from S line and 2,140 ft. from E line, Sec. 12, Blk. 2, University Sur. ..... Bldg. derrick.

Continental Oil Co.'s No. 7-B University, 1,900 ft. from N and 650 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 8,098 ft.

Continental Oil Co.'s No. 8-B University, 1,300 ft. from S and 1,775 ft. from W, Sec. 36, Blk. 9 ..... Drlg. 8,005 ft.

Noel T. Lawson's No. 1 Hughes, 1,980 ft. from S line and 1,980 ft. from E line of Sec. 23, Blk. F, C.&M. Sur.... Drlg. 600 ft.

J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 179, Blk. 1, T.&P. Sur. ..... T.D. 2,000 ft.

RUNNELS COUNTY

Dutton et al's No. 1 Dean, 5,475 ft. from NE and 1,045 ft. from NW in J. Heil Sur. No. 519 ..... S.O. 3,417-30 ft.; S.D. 3,499 ft.

John Castor's No. 1 Hall, 330 ft. from S and W, Sec. 149, E.T.R.R. Sur. ..... Spudded.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, C Sec. 29, Blk. M, G.H.&S.A. Sur. ..... Fishing; T.D. 5,934 ft.

Wesner et al's No. 1 Nicks, 2,310 ft. from N and 2,302 ft. from E of Sec. 77, Blk. LL, T.C. Sur. ..... Fishing; T.D. 6,350 ft.

WARD COUNTY

Atlantic Oil Prod. Co.'s No. 1 University, 330 ft. S and E, Sec. 3, Blk. 16 ..... Drlg. 2,405 ft.

George Bentley et al's No. 1 C. Bergman, 330 ft. from NE line and 2,310 ft. from NW lines of Sec. 36, Blk. 5, H.&T.C. Sur. ..... Drlg. 2,320 ft.

George Bentley et al's No. 1 A. Emory, 1,830 ft. from NE line and 2,310 ft. from NW line of Sec. 36, Blk. 5, H.&T.C. Sur. ..... Drlg. 1,660 ft.

W. A. Black et al's No. 1 Ann B. Gordon, 990 ft. from NW and 330 ft. from NE lines of Sec. 6, Blk. 34, H.&T.C. Sur. ..... Fishing; T.D. 2,290 ft.

Bradford et al's No. 1 Emery, 2,970 ft. from NE and 990 ft. from NW, Sec. 36, Blk. 5, H.&T.C. Sur. ..... Spudding.

Sundy et al's No. 1 Bennett, 2,310 ft. from NW and SW Sec. 16, Blk. 34, H.&T.C. Sur. ..... Swabbing and cleaning out; T.D. 2,632 ft.

Eppenauer Drlg. Co.'s No. 1 G. S. Comos, 498 ft. from N line and 438 ft. from NW line of Sec. 4, J. W. Hollingsworth Sur. ..... Rig up.

Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 ..... Derrick.

Gerber O. & G. Co.'s No. 1 Stubbs, 330 ft. from S, 990 ft. from W, Sec. 9, Blk. 3, B.&B. Sur. ..... Cellar.

Graham Corp.'s No. 1 Bennett, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 16, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,055 ft.

Gulf Prod. Co.'s No. 18 Hutchings, 1,933 ft. from S and 1,650 ft. from W, Sec. 5, Blk. F ..... Fishing; T.D. 2,745 ft.

Gulf Prod. Co.'s No. 17 Hutchings, 330 ft. from W line and 1,151 ft. from S line of Sec. 5, Blk. A, G.&M.M.B.&A. Sur. ..... Drlg. 2,000 ft.

Gulf Prod. Co.'s No. 30 O'Brien, 990 ft. from S line and 660 ft. from W line of Sec. 6, Blk. F, G.&M.M.B.&A. Sur. ..... Running csg. 1,394 ft.

Humble Oil & Ref. Co.'s No. 1 Louis, Richter et al, 1,650 ft. from the NE line and 990 ft. from SE line of Sec. 27, H.&T.C. Sur., Blk. 34 ..... Rig up.

Messenger and Wadsworth's No. 1 Hardage and Wilson, 330 ft. from SW and 330 ft. from SE, Sec. 11, Blk. 34, H.&T.C. Sur. ..... S.D. 2,688 ft.

Rector-Plains' No. 1 Monroe, 1,320 ft. from SE line and 330 ft. from NE line of Sec. 31½, James Ross Sur. No. S.F. 7,666 ..... S.D. 4,608 ft.

Skelly Oil Co.'s No. 2 Brillhart, 1,320 ft. from SE line of Sec. 13, Blk. 34, H.&T.C. Sur. ..... Waiting on cmt. to set 2,438 ft.

Sturm-Simms' No. 4 Jones, 2,310 ft. from NE line and 1,650 ft. from S line of Sec. 25, Blk. B-29, P.S.L. Sur... Drlg. 760 ft.

G. R. Thomas et al's No. 2 John B. Bennett, 2,310 ft. from SE and 1,650 ft. from NE lines of Sec. 16, Blk. 34, H.&T.C. Sur. ..... Drlg. 2,517 ft.

Thompson's No. 1 Johnson, 2,310 ft. from SW and 330 ft. from NW, Sec. 9, Blk. 34, H.&T.C. Sur. ..... Fishing; T.D. 2,351 ft.

Wahlenmaier Pet. Corp.'s No. 1 Bergman, 2,310 ft. from NE line and 1,650 ft. from SE line of Sec. 26, H.&T.C. Sur. ..... Drlg. 860 ft.

WINKLER COUNTY

Colonial Oil Co.'s No. 1 State vacancy, 330 ft. E and 103 ft. N of NW cor. Sec. 2, Blk. 77, P.S.L. Sur. ..... Drlg. 3,125 ft.

Sid Richardson's No. 1 State-Scarborough, 1,320 ft. E and 102½ ft. N of the NW cor. of Sec. 1, School Blk. 77, located in Sur. No. 1, Blk. WF ..... Drlg. 2,550 ft.

Wildcat Operations in Texas Panhandle

Week Ending May 1

CARSON COUNTY

Company, well, farm name, section and block—	Remarks:
The Texas Co.'s No. 2-B Garner, 990 ft. N and E, Sec. 95, Blk. 4, I.&G.N. Sur.	Drlg. 1,855 ft.
Texas Nat. Gas Co.'s No. 5-S Schaffer, 1,425 ft. S, 1,490 ft. W, Sec. 69, Blk. 3, I.&G.N. Sur.	Drlg. 2,285 ft.
Texoma Nat. Gas Co.'s No. 4-S Schaffer, 1,334 ft. S, 1,325 ft. E of SE Sec. 48, Blk. 4, I.&G.N. Sur.	Drlg. 2,482 ft.

CHILDRESS COUNTY

G. V. McClintock et al's No. 1 B. F. Moore, C Sec. 47, F. P. Knott Sur.	Drlg. 580 ft.

COLLINGSWORTH COUNTY

Tittle, Cochran et al's No. 1 Boyles, 150 ft. S and E of Sec. 90, Blk. 14, H.&G.N. Sur.	Skidded rig 30 ft. west; digging cellar.

GRAY COUNTY

Gordan Burch's No. 1 Laugham, 990 ft. S, 330 ft. E. Sec. 1, W½ NE, Sec. 1, Blk. B-2, H.&G.N. Sur.	T.D. 2,800 ft; to P.B. and comp. for gas well.
Sam Danner's No. 1 Cobb, 330 ft. S and W NE, Sec. 165, Blk. 3, I.&G.N. Sur.	Swabbed 188 bbls. first 24 hrs.; T.D. 3,384 ft.
Hendron et al's No. 1 Husselby, 330 ft. S and E of SW SW Sec. 11, Blk. A-9, H.&G.N. Sur.	Rig.
Mazda-Shell's No. 4 Coombs-Worley, 990 ft. from N line 330 ft. from E line, Sec. 35, Blk. 3, I.&G.N. Sur...	Rig.
Ochiltree et al's No. 1 Hughey, 350 ft. S, 330 ft. E E half SE, Sec. 129, Blk. 3, I.&G.N. Sur.	T.D. 3,257 ft; T.P. 3,170 ft; shot with 100 qts. from 3,170-3,240 ft.; C.O.
Skelly Oil Co.'s No. 1 C. Thut, 330 ft. from S line, 330 ft. from W line, SW Sec. 1, H.&G.N. Sur., Blk. 1....	Drlg. 2,840 ft.
Sun Oil Co.'s No. 1-B Combs-Worley, 330 ft. S and E of SW Sec. 34, Blk. 3, I.&G.N. Sur.	T.D. 3,050 ft; T.P. 3,010 ft; flowing 80 bbls.
Tedesco-Bell O. & G. Co.'s No. 4 Morse, 990 ft. N and W SE, Sec. 1, Blk. 26, H.&G.N. Sur.	T.D. 2,542 ft; T.P. 2,487 ft; to shoot.
The Texas Co.'s No. 4 Brown, 330 ft. N, 990 ft. W of W½ Sec. 137, Blk. 3, I.&G.N. Sur.	Drlg. 2,236 ft.
Geo. Travis' No. 3-B Webb, 990 ft. N and W, Sec. 61, Blk. 25, H.&G.N. Sur.	T.D. 550 ft.
Warner Oil Co.'s No. 1 Webb, 660 ft. from S and W of W 80 of N½ Sec. 42, Blk. 26	Drlg. 2,000 ft.
Wilcox O. & G. Co.'s No. 22 Combs-Worley, 330 ft. N and E, W½ Sec. 35, Blk. 3, I.&G.N. Sur.	Rig up.

HUTCHINSON COUNTY

Alexander's No. 1 Cockrell, 330 ft. N and E of E 80 of S 160, Sec. 3, Blk. M-2, T.C. Sur.	T.D. 3,029 ft; swbd. 50 bbls. per day.
Badger Oil Co.'s No. 5 Lewis, 2,278 ft. from S, 330 ft. from W, Sec. 18, Blk. L, E.L.&R.R. Sur.	Spudded.
W. E. Means et al's No. 1 Pond, 330 ft. S and E, N½ of E 165½ acres, Sec. 2, Blk. M-21, T.C.R.R. Sur.	Spudding.
H. Stekol's No. 4-D G. A. Whittenburg, 450 ft. from N line, 990 ft. from W line, Sec. 38, Blk. M-23, T.C. R.R. Sur.	Rig up.
Texilvania Oil Co.'s No. 1 Halle, 330 ft. S, 280 ft. W, Sec. 16, Blk. 1, E.L.R.R. Sur.	Swbd. 15 bbls.; T.D. 3,013 ft.

MOORE COUNTY

Canadian River Gas Co.'s No. 2-A Perkins, 2,350 ft. S of most northerly NE cor, 200 ft. W of E line, Sec. 54, Blk. 47, H.&T.C. Sur.	T.D. 2,410 ft; tested 84,000,000 ft. of gas.

ROBERTS COUNTY

Chicken Creek Oil Co.'s No. 1 Ledrick, 330 ft. N and W, Sec. 55, Blk. C, G.&M. Sur.	Recmtng. csg.; T.D. 4,980 ft.

WHEELER COUNTY

Bell O. & G. Co.'s No. 1 Evans, 330 ft. N and E of NW Sec. 51, Blk. 24, H.&G.N. Sur.	Spudded.
Delaney et al's No. 1 Sitter, 330 ft. from S and W of E half NE, Sec. 33, Blk. 24	Est. 15,000,000 ft. gas; S.D. 3,711 ft.
Helena O. & G. Co. et al's No. 1 Below, C NE SW, Sec. 50	Drlg. 2,135 ft.
Osborne et al's No. 2 Sloss & Admire, 330 ft. from N line and 1,530 ft. from E line of NE Sec. 47, H.&T. C. Sur., Blk. 13	S.D. 2,167 ft; S.G. 2,130 ft., 2,152-60 ft.
B. M. Rhodes' No. 1 Noel, 330 ft. S and E NE, Sec. 54, Blk. 24, H.&G.N. Sur.	T.P. 2,480 ft; T.D. 2,482 ft; pumped 25 bbls. first 24 hrs. and only 12 bbls. third 24 hrs.
Rogers & Harner's No. 1 J. O. Clark, 990 ft. S and W of Sec. 6, Blk. 24, H.&G.N. Sur.	Rig.

Purchasing Companies Increase Their Crude Oil Nominations for Oklahoma During May

By W. A. SPINNEY
Staff Correspondent, Oklahoma Fields

The taking of potential tests on wells in the Oklahoma City Field has been in progress during the past week and up to Saturday, April 29, 370 wells had been gauged, showing a decline of 46 per cent in potential production compared to the last previous tests, made in November, 1931. The remainder of the 83 Wilcox sand wells to be tested in that field are considered to be high on structure and are expected to show a larger percentage decline than the first wells. The corporation commission is expected to issue orders in a few days on the taking of potential tests on the Simpson sand wells and the fault line wells. The commission ordered all the Simpson sand wells shut in on May 1, with the exception of those making 10 per cent or more water.

Seminole Potential Tests

The corporation commission has announced that hearings will be held on May 17, at Oklahoma City to consider ways and means to take potential tests in the Greater Seminole area and to decide on suggestions and rules on what kind of reports the operators and pipe line companies will submit to the commission from all the prorated areas in the State. On May 24 the commission will hear the evidence on taking potential tests in the Tatums Pool, in Carter County, and of the remainder of the prorated areas in the State.

The deepest drilling well in the State, Denver Producing & Refining Co.'s No. 1 Noe, NW cor. SW SW Section 34-10-10w, Caddo County, was drilling on the last report at 8,150 feet. It was estimated the Viola lime was found at 7,200 feet and the Simpson sand at 7,900 feet.

In southern Oklahoma, the Navajo Oil & Gas Co.'s No. 1 Payne, SE cor. SW NW Section 18-1n-5w, Stephens County, was spudding. It is scheduled to be a 6,500-foot test.

Wentz Pool in Limelight

The Wentz Pool, in Noble County, is in the limelight again with two of the drilling wells nearing the completion stage and the announcement of a new location on the east side of the field.

To further test the eastern part of the producing area southwest of Perry, the Champlin Refining Co.'s No. 1 Graves, SW cor. NW NE, Section 21-20-2w, is a new location. It is the second 10-acre location to be made in the area, the first being the Sinclair Prairie Oil Co.'s No. 1 Jerome, in SW cor., Section 15-20-2w.

The producing area in the Wentz Pool was extended a half mile to the west by the Lucien Consolidated Community's No. 1 Whitten, C SE SE, Section 7-20-2w, which found the Wilcox sand at 5,153-92 feet, where the hole filled with oil. The company has been busy erecting tankage and a production test has not been made of the oil showing.

The same company's No. 1 Farr, C NE NE, Section 19-20-2w, is the most southwesterly test in the field, and is a half mile south and a half mile west of the discovery well. The crew has cemented the 8-inch casing at 5,000 feet and was rigging up standard tools and it is expected to reach the Wilcox sand during the week.

Two other tests are expected to be started in the unitized block in this area on short term leases. The west half of the NE Section 20-20-2w, and the SW Section 17-20-2w are both expiring in 1933. Also a number of leases outside of the unitized block are expiring during the year 1933 on which wells are expected to be started.

Another interesting wildcat well is the Continental Oil Co. and Westyde Investment Co.'s No. 1 Thompson, NW cor. SW SW, Section 7-24-4w, Garfield County, which found a showing of oil, gas and water in a lime at 5,606 feet, and was drilling on the last report at 5,650 feet. The test is expected to reach the Wilcox sand horizon in the next 200 feet.

Good Wells in Greater Seminole

In the Greater Seminole area two wells in southern Pottawatomie County were outstanding this week. The first well was the Amerada Petroleum Corp.'s No. 1 Harrison, NW cor. SW Section 33-7-4, which extended production a half mile south in the southwest area of the St. Louis Pool. The well made 1,885 bbls. of oil from the Viola lime at 4,052-4,118 feet. This well has given this part of the field a new play and a number of new locations are expected to be announced during the week.

The other well was the Amerada Petroleum Corp. and others' No. 1 Shirley, NE cor. SE Section 26-6-4, which extended the West Konawa Field to the west, making around 1,200 bbls. of oil the first day from the Simpson dolomite at 3,385-3,403 feet. The well has been shut in until the owners can erect additional tankage and secure a pipe line connection.

An interesting well in the north extension area to the East Earlsboro Pool, was R. H. Pierce & Co.'s No. 2 Phillips, SE cor. SW SE Section 8-9-6, which is estimated at 1,500 bbls. a day. It is cleaning out after a shot in the Wilcox sand at 4,230-49 feet. The Amerada Petroleum Corp. has staked two locations offsetting the well in Section 33-7-4. No. 1 Rice, SE cor. NE Section 32-7-4, and No. 1 Perry, NE cor. SE Section 32-7-4.

In the Sacred Heart area, Pottawatomie County, Sinclair Prairie Oil Co.'s No. 1 Copeland, NW cor. Section 5-6-5, was drilled to 4,215 feet, where it found water and it will be plugged back to 4,210 feet with cement. It will be tested after it has been treated with acid.

In the West Holdenville Pool, in Hughes County, the Sunray Oil Co.'s No. 1 Jacobs, SW cor. NW NW Section 15-7-8, was drilled deeper into the Gilcrease sand from 3,052-56 feet. The well had what was estimated to be a 15,000,000-foot gas production which was mudded off at 3,035-52 feet.

Oklahoma City Tests

Some of the largest wells tested in the Wilcox sand zone of Oklahoma City during the last week are worthy of special mention. Phillips Petroleum Co.'s No. 1 Brim made 10,716 bbls. of oil in four hours. This well had a potential of 13,833 bbls. in four hours on its last potential test. The same company's No. 1 Calkins made 10,378 bbls. of oil in four hours with gas that gauged at the rate of 43,900,000 feet per day. Its previous potential was 13,445 bbls. in four hours. The same company's No. 1 Houston made 10,079 bbls. in four hours with gas that gauged 130,500,000 feet a day, compared to a previous four-hour flow of 14,711 bbls.

The lowest volume of gas found in wells in the Wilcox sand zone was the Sinclair Prairie Oil Co.'s No. 7 School Land-67, which made 198 bbls. of oil in four hours and the gas volume was considered too low to measure. This well had a previous potential of 156 bbls.

The largest potential from the Oklahoma City Field up to April 29 was the Phillips Petroleum Co.'s No. 1 Still, in Section 3-11-3w, which gauged 11,123 bbls. in four hours. It had a potential of 14,204 bbls. on the previous test.

Production of Leading Fields

The oil production from the principal producing areas in the State for the week ending April 29 was as follows:

Pool—	Bbls.
Bowlegs	8,060
Bristow-Slick	11,250
Burbank	10,000
Carr City	7,320
Earlsboro	11,285
East Earlsboro	15,770
South Earlsboro	1,395
Little River	15,265
Oklahoma City	120,950
St. Louis-Pearson	18,370
Seminole	9,900
Tatums	3,900
Total	233,475
Others	186,750
Total for State	420,225

Increased Crude Oil Demand

The crude oil demand from Oklahoma for May shows an increase of 26,769 bbls. a day over the April demand. The total nominations for May averaged 449,510 bbls. daily compared to 422,741 bbls. daily for the month of April.

The nominations in the Oklahoma City Field were increased 19,515 bbls. per day to a total of 159,410 bbls. The increase applies to the Wilcox and Simpson sand zones. In addition to the increase in the allowed output of crude oil, it is esti-

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location—	Remarks:
Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w	O.W.D.D.; T.D. 5,502 ft; C.O.

BECKHAM COUNTY

Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-10-23w	Drlg. 2,160 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w	Drlg. 8,118 ft.
W. L. Miller's No. 1 Gardner, SE SW Sec. 26-6-10w	Rig.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-8	Oil show 1,853-67 ft.

GARFIELD COUNTY

Continental Oil Co.'s No. 1 Thompson, NW SW SW Sec. 7-24-4w	Drlg. 5,624 ft.

HUGHES COUNTY

Dixie-Lee Oil Co.'s No. 1 Taylor, C NW Sec. 27-5-10	Spudding.

KAY COUNTY

Blauner et al's No. 1 Maple, NE NW SE Sec. 20-27-4	Drlg. 380 ft.

KIOWA COUNTY

McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.)	C.O. 2,035 ft.

LOGAN COUNTY

Shell Pet. Corp.'s No. 1 Faulkner, C SE NW Sec. 11-16-4w	Drlg. 3,640 ft.

MURRAY COUNTY

A. E. Harden's No. 1 Sadler, NE Sec. 19-1-2	Rig.

NOBLE COUNTY

Shell Pet. Corp.'s No. 1 Farr, C NE NE, Sec. 19-20-2w	R.U.S.T. 4,985 ft.
Sinclair Prairie's No. 1 Jerome, SW cor. Sec. 15-20-2w	R.U.S.T. 5,144 ft.

McCURTAIN COUNTY

H. J. Shaffer's No. 1 Rockey, SW cor. Sec. 4-8-27	Dry and abd. 810 ft.

OKFUSKEE COUNTY

Natl. Investers' No. 1 Billy, SE NW NW Sec. 29-12-9	Drlg. 2,500 ft.

PAYNE COUNTY

Kemp & Nunnelee's No. 1 Crane, SW SE SW Sec. 10-17-6	Rig.

PONTOTOC COUNTY

Edna Marie's No. 1 McWhorter, NE SE Sec. 11-2-6	Drlg. 700 ft.
Brydia et al's No. 1 Thomas, SW NE Sec. 20-2-7	Rig.
Gilbert's No. 1 Starritt, NW SE Sec. 28-4-6	Drlg. 700 ft.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7	Drlg. 350 ft.
Blackwell O. & G. Co.'s No. 1 Abbott, NW SW NE Sec. 14-4-6	Sand 1,543-90 ft.; T.D. 1,710 ft.; to P.B. to 1,190 ft; C.O.; U.R. 10-in. csg.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-3-6	Spudding.
Williams' No. 1 Kroth, NE SE Sec. 33-3-4	Drlg. 1,717 ft.
Wirrick's No. 1 Lee, SE SW Sec. 29-3-7	Drlg. 507 ft.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4	Drlg. 2,900 ft.

SEMINOLE COUNTY

Filmlee's No. 1 Bowlegs, SE NE SW Sec. 1-7-7	Drlg. 425 ft.
Armstrong et al's No. 1 Diamond, NE SE SW Sec. 8-6-7	Rig.
English et al's No. 1 Harjo, NE SW Sec. 3-8-8	Fishing 676 ft.
Donnelly et al's No. 1 Shepard, SE NE Sec. 4-8-8	Sand 1,395-1,405 ft; wtr.; fishing 1,640 ft.
Harris-Hays' No. 1 Harjo, NE SE NW Sec. 11-6-8	T.D. 2,910 ft; P.B. to 2,791-2,805 ft; 50 bbls. oil; comp.

Southern Oklahoma

ATOKA COUNTY

L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10	Drlg. 1,580 ft.

CARTER COUNTY

P. Turner's No. 1 Dove, NE NW SE Sec. 3-5-1	Rig.
E. M. Boring's No. 1 Morgan, C NE NW SW Sec. 4-1s-3w	Showing 12,000,000 ft. gas 2,038 ft; C.O.; set 8-in. 1,795 ft; showing 10 bbls. per hr.; 8,000,000 ft. of gas.

JEFFERSON COUNTY

Abbott et al's No. 1 Simmons, NW cor. Sec. 14-4s-6	Drlg. 631 ft.
Hobbs' No. 1 Barnett, NE SE SW Sec. 32-5-5w	Drlg. 1,600 ft.
Wakefield's No. 1 Kelly, NW SE Sec. 1-5-5w	Drlg. 550 ft.

MARSHALL COUNTY

Thomas' No. 1 Setliff, SW SE SE SW Sec. 36-5-6	Drlg. 1,110 ft.

STEPHENS COUNTY

Doyle Oil Co.'s No. 1 Cunningham, SE NE NW Sec. 4-1-6w	Drlg. 1,600 ft.
Navajo O. & G. Co.'s No. 1 Martin, SE SW NW Sec. 18-1-5w	Rig; spudding.

TILLMAN COUNTY

Emenheiser et al's No. 1 Pace, C SW Sec. 2-4s-17w	Drlg. 2,450 ft.
Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 24-4s-15w	Drlg. 2,550 ft.

mated that for the month of April there will be 1,500,000 bbls. of underproduced oil, due to the fact that potential tests on wells producing from the Wilcox sand zone were being taken.

The present nominations for May compared to the April nominations are as follows:

District—	May	April
Class A	109,700	108,127
Class B	18,150	18,969
Others	160,650	160,650
Oklahoma City	159,410	139,995
Wildcats	1,500	2,000
Total	449,510	422,741

The Corporation Commission failed to fix any allowable for the Siliceous lime zone in the Oklahoma City Field. These wells are permitted to flow to full capacity, and the nominations for the month of May exceed the daily average production. The nominations by zones are as follows:

Zone—	May	April
Wilcox sand	106,209	94,115
Simpson	52,526	45,145
Fault line	255	255
Lime	420	480
Total	159,410	139,995

Some of the crude oil purchasers increased their nominations in the Oklahoma City Field for May while the majority held the same amount as for April. Following are the nominations by companies for the month of May by zones:

Oklahoma City May Nominations

Company—	Wilcox	Simpson	Total
Century	2,000	160	2,160
Champlin	4,500	500	5,000
Continental	2,000	.....	2,000
Eason	1,500	.....	1,500
Empire	4,200	13,500	18,000
W. Franklin	.....	10,500	10,500
Globe	4,000	.....	4,000
Phillips	33,000	500	33,500
I. T. I. O.	1,700	6,800	8,500
Magnolia	9,944	2,756	12,700
Major	250	.....	250
Oklahoma P. L.	7,700	5,700	13,500
Petroleum P. L.	2,000	.....	2,000
Refiners	3,000	.....	3,000
Shell	2,630	670	3,300
Sinclair Prairie	1,500	8,000	9,500
Stanolind	18,285	3,500	22,000
Sunray	3,000	.....	3,000
Wilcox	5,000	.....	5,000
Total	106,209	52,526	159,410

Empire nominated 125 bbls. from fault line zone and 175 bbls. from lime zone. Oklahoma Pipe Line Co. nominated 100 bbls. from the lime zone. Shell Petroleum Corp. nominated 60 bbls. from lime zone. Stanolind Pipe Line Co. nominated 130 bbls. from fault line and 85 bbls. from the lime zone.

During the Corporation Commission's hearing the Champlin Refining Co., through its attorney, H. O. Glasser, asked each witness if the posted price of crude oil would have any bearing on the amount of oil that company would purchase, and also if the company had been buying crude oil below the posted price.

The attorney stated to the commission that the crude oil demand from the Oklahoma City Field was fixed on a price basis. He admitted that a record was being made for an appeal to the State Supreme Court some time later.

High and Low Gas-Oil Ratios

The gas-oil ratio of the wells that were tested in the Oklahoma City Field for potential production was reported as low, with the exception of a few cases. An average of 32 wells was taken as an example and these wells show an average gas-oil ratio of 3,350 feet per barrel of oil. The exception to the rule was found in the Phillips Petroleum Co.'s No. 2 Roden, in Section 2-11-3w, which made 960 bbls. of oil in four hours and 268,500,000 feet of gas a day, the gas-oil ratio being 46,570 feet of gas per barrel of oil. The Sinclair Prairie Oil Co.'s No. 15 School Land-54, in Section 36-11-3w, made 415 bbls. of oil in four hours with gas that was gauged at the rate of 81,000,000 feet a day, giving the well a gas-oil ratio of 33,300 feet of gas per barrel of oil. Another higher gas-oil ratio well is Slick estate's No. 2 Campbell, Section 3-11-3w, which made 870 bbls. of oil in four hours and at the rate of 86,000,000 feet of gas per day, giving the well a gas-oil ratio of 16,500 feet of gas per barrel of oil.

During the last few months the gas production from the wells in the Oklahoma City Field has been increasing and the oil production decreasing. Many believe that the gas has been channeling and by-passing the oil. The method of obtaining potentials on these wells is not considered by many to be a fair test of what the production of the well would actually be. The wells are opened for a four-hour test and all the offsetting wells are shut in while the one well is open. This four-hour potential is then multiplied by six to get the 24-hour potential of the wells.

Some of the wells start producing at a large rate and at the end of the four-hour period show a substantial decline in production while the gas production shows an increase. Many believe that if these wells were allowed to produce 24 hours they would show a large decline and that some would be making all gas, and no oil.

Leasing Activities

Leasing activity in southern Oklahoma has increased along the Carter-Garvin County line, between the old Roberson and the Tatums Pool, in Townships 1n-3w and 1s-3w. A few shallow dry holes have been drilled in the territory.

In Garvin County all of Sections 32 and 33-1n-3w, and in Carter County all of Section 4-1s-3w, is under lease. Considerable geological work has been under way along the county line and along the Indian meridian. The blocking of acreage has been in progress of assembly during the last two years.

Hints of Practical Value

By L. G. E. BIGNELL

Petroleum Engineering Editor

Splicing Wire Rope

The tools required to splice a wire rope are a small marlin spike, cutting nippers, and either clamps or a small hemp rope sling with which to wrap around and untwist the rope. If a bench vise is accessible it will be found convenient.

Having carefully measured the length of the rope should be after splicing, mark it and unlay the strands from each end, exposing the hemp center. Cut off exposed portion of the hemp center and bring the two ends of the unlaid rope together as shown in Figure a.

1. Interlock the six unlaid strands of each end alternately and draw them together so that they nearly meet.

2. Unlay a strand from one end and following the unlay closely, lay into the seam or groove it opens the strand opposite it belonging to the other end of the rope, until within a length equal to three or four times the length of one lay of the rope, and cut other strand to about the same length from the point of meeting as shown in Figure b, "P."

3. Unlay the adjacent strand in the opposite direction, and following the unlay closely, lay in its place the corresponding opposite strand, cutting the ends as described above and shown at "Q," Figure b.

There are now four strands laid in place terminating at "P" and "Q," with the eight remaining at the center. It will be well after laying each pair of strands to tie them temporarily as shown in Figure b at points "P" and "Q."

Pursue the same course with the remaining four pairs of opposite strands stopping each pair about 8 or 10 turns of the rope short of the preceding pair, and cutting the ends as before. This operation is shown in Figure c.

All strands are now laid in their proper places with their respective ends passing each other. This method is common to all rope splicing, the variations consisting of methods employed in tucking the ends.

The method of tucking in ends approved by the leading rope manufacturers of America is to clamp the rope either in a vise at a point to the left of the pair of ends shown at the extreme left of Figure c, and by a hand clamp applied near this point open up the rope by untwisting sufficiently to cut and seizing the core with nippers. Let an assistant draw the core out slowly following this operation closely and crowding the strand in its place until it is all laid in. Cut the core where the strand ends, and push the end back into its place. Remove the clamps and let the rope close together around it. Draw out the core in the opposite direction and lay the other strand in the center of the rope, in the same manner. Repeat the operation at the five remaining points and hammer the rope lightly with small wooden mallets at the points where the ends pass each other, and splice is complete.

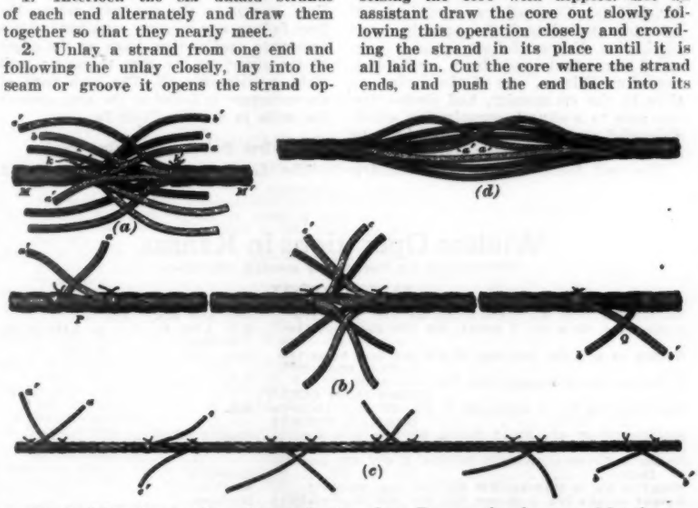
If the clamp and vise are not obtainable, two rope slings and short wooden levers may be used to untwist and open up the rope.

A rope splice made as above directed will be nearly as strong as the original rope and smooth everywhere.

With two experienced men and proper tools a splice for a seven-eighths inch rope should be made in from 3½ to 4 hours. One man working alone, using a vise, will require from one-third to one-half more time than two men.

LENGTH OF WIRE ROPE TO BE ALLOWED FOR SPLICES

Diameter of rope, inch—	⅜	½	⅝	¾	⅞	1	1⅛	1¼	1⅜
Length of rope allowed for splice, ft.	16	16	20	24	28	32	36	40	44



Interest in the oil and gas leases offered by the Five Civilized Tribes agency at Muskogee, Okla., continues. A total of 102 oil and gas leases were offered for sale and 54 tracts were sold for a sum of $10,544 on April 25.

Seminole County led in both the number of tracts sold and the highest amount paid per acre. A total of 25 tracts were offered and 14 were sold. The Twin State Oil Co. paid the highest price of $22 per acre for a 40-acre tract, the NW SE Section 35-11-5, in the Keokuk Falls area.

Eleven tracts of the nineteen offered in Stephens County were sold. Only four of the 21 leases in Hughes County were sold. Two tracts in Pittsburg County went for $10 per acre. One tract in Muskogee County was offered and sold. In Wagoner County three tracts were purchased. One tract was sold in Okmulgee County. Five of the seven tracts were sold in Creek County. In Jefferson County two tracts were sold. One tract in both Carter and Marshall Counties were sold. One of the three coal and asphalt leases were sold in McIntosh County.

New Well in Olive Pool

Gled Oil Co. and others' No. 1 Escoe, SE cor. Section 27-18-8, in Olive Pool, of Creek County, was showing for 200 bbls. of oil from the Layton sand at 1,293-1,318 feet. It was given a shot and was cleaning out. It extends the production one location to the west in the area.

Carter County

Carter Oil Co.'s No. 4 Robb, SE cor. SW NW Section 19-1s-2w, made 187 bbls. from 1,761-1,842 feet.

Creek County

Marrs and others' No. 1 Tiger, NE cor. Section 34-18-8, made 185 bbls. from 1,280-1,303 feet. Steckoll and others' No. 1 Townsite, SW cor. NE NE Section 23-17-10, made 5 bbls. from 1,888-1,905 feet.

Hughes County

Fleetborn and others' No. 1 Foster, NW cor. SW Section 14-7-8, was dry and abandoned at 1,236 feet. McCoy and others' No. 1 Haskell, SE cor. SW SE Section 15-7-8, made 70 bbls. from 1,188-1,203 feet.

Kay County

Harris-Haun's No. 1 Schimp, C W half SW Section 17-29-1, made 13,000,000 feet of gas from 2,640-54 feet.

Marshall County

Kingston Oil & Gas Co.'s No. 1 Adams, SE cor. SW Section 31-7s-6, was drilling at 300 feet.

McCurtain County

H. J. Shaffer's No. 1 Rockey, SW cor. Section 4-8s-27, was dry and abandoned at 810 feet.

Muskogee County

Foltz-Godfrey's No. 4 Bema, SW cor. NE NE SW Section 8-15-18, was spudding. Simmins and others' No. 1 Sango, NE cor. SE Section 18-14-18, was dry and abandoned at 1,665 feet. Metzger and Foltz' No. 4 Crittenden, CNL NE SE Section 6-14-19, made 75 bbls. from 813-27 feet.

Noble County

Champlin Refining Co.'s No. 1 Graves, SW cor. NW NE Section 21-20-2w, is a location.

Oklahoma County

Transit Oil Co.'s No. 1 Knapp, NE cor. SW Section 22-11-3w, made 1,886 bbls. in four hours from 6,495-6,575 feet. Phillips Petroleum Co.'s No. 2 Roden, NW cor. SW NW Section 2-11-3w, made 916 bbls. in four hours from 6,242-6,328 feet. Same company's No. 2 Stamper, CSL NE SE Section 22-11-3w, made 3,332 bbls. in four hours from 6,509-97 feet. Same company's No. 2 Wallace, CNL SE SE Section 22-11-3w, made 3,573 bbls. in four hours from 6,430-6,518 feet. Mid-Texas Co.'s No. 2 Vaughn, CSL SW NE Section 15-11-3w, made 1,804

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New Pipe Lines Will Soon Open Development Work in Central-Western Kansas Counties

By W. A. SPINNEY
Staff Correspondent, Kansas Fields

Development work in Kansas continues over a wide area and the daily average production remains steady with little change from week to week. A wildcat well in Pratt County reports showings of oil and gas. The well, Ninnescah Oil & Gas Co.'s No. 1 Hardesty, SW cor. SE SE, Section 28-27-11w, reports a showing of oil and gas at 3,942-43 feet through 1,800 feet of water. Another oil and gas showing was found at 3,965-71 feet. The well was drilling deeper at 4,015 feet with no further increase in the oil and gas showings.

An interesting condition was found in the Ritz-Canton-Decker Field in McPherson County during the week. The Dickey Oil Co.'s No. 4-B Decker, SE cor. NW SE, Section 35-19-2w, found only a small showing of oil and about 2,000,000 feet of gas in chat at 2,935-70 feet, and water was showing at the bottom of the hole. It is the southeast diagonal offset to the same company's No. 4 Decker on the same lease, which was completed in 1932 for 14,300 bbls. of oil from the chat and was the State's largest well that year. It is believed the heavy drainage from surrounding wells is the explanation of this failure in the chat. The Dickey Oil Co.'s Decker lease was considered one of the most valuable in the Ritz-Canton Field, as some of the largest wells ever found in McPherson County were completed there.

In the south extension of the Voshell Field in McPherson County, Shell Petroleum Corp. and others' No. 1 Sperling, SW cor. NE NE, Section 28-21-3w, drilled the Hunton lime from 3,400 to 3,413 feet with nothing showing. The hole will be drilled deeper.

Production of Principal Pools

The production from the principal pools in the State for the week ending April 29 was as follows:

Pool—	Bbls.
Hollow	8,300
Ritz-Canton	19,880
Voshell	6,230
Sedgwick County	12,500
Mabee (Nikkel)	7,485
Ellsworth County	1,525
Barton County	685
Rice County	3,240
Stafford County	205
Reno County	1,595
Total	62,045
Others	53,805
Total state	115,850

Western Kansas Activities

The development of Kansas oil reserves continues over a large area. In the central western part of the State the present development is now mainly in McPherson, Harvey, Rice, Ellsworth, Barton and Stafford Counties.

Since the first of January, 1933, there have been 36 wells with a potential of 44,808 bbls. a day completed in McPherson County. There are, including wells completed and drilling, 33 wells in northwestern Rice County. The completed wells have a potential of 15,000 bbls. daily. The Chase Townsite is the center of development in Rice County. Oil has been found in two wells on the townsite and three other tests are starting in the vicinity. In the Orth Pool, in the northwestern part of Rice County, the second test is starting offsetting the discovery well, since this area has been provided with a market outlet.

Southeast of Chase Townsite, E. H. Langston and others' No. 1 Wells, NE cor. SE, Section 4-20-9w, Rice County, is an interesting test. It is drilling below 1,600 feet.

In Stafford County the Atlantic Oil Producing Co.'s No. 1 Gates in Section 27-21-13w, is a wildcat test that found a showing of oil in the Lansing formation at 3,325-35 feet, and a production test is expected to be made shortly.

In Ellsworth County, the Stanolind Oil & Gas Co.'s No. 1 Trevert in Section 21-16-10w, in the Stoltenberg area, was drilling below the Kansas City lime after finding water in that formation at 3,132-38 feet. The Gypsy Oil Co. and Stanolind Oil & Gas Co.'s No. 3 Stoltenberg, in Section 22-16-10w, was fishing at 2,650 feet. Same company's No. 4 Stoltenberg has landed 8-inch casing at 3,138 feet.

In the northeastern part of Barton County, Slick, Pryor & Lockhart's No. 1 Hogan, C SE NW, Section 12-17-11w, a wildcat test, was drilling in the Wellington salt at 1,300 feet.

These counties will have additional pipe line outlets this month. The Sunflower Refining Co. and the Stanolind Pipe Line Co. are both constructing pipe lines into this large area, which added outlet is expected to increase development work in the proven and semiproven areas. The drilling of wells has been retarded owing to the limited number of pipe lines and loading racks.

The Harvey-McPherson Development

The most intensive development is in the southern part of McPherson County and the northwestern part of Harvey County. The Harvey County area was started from a well that was drilled on a one-acre church lot in Section 20-22-3w, in 1930. The well was a wildcat. Oil operators had leased the area in large blocks but Frank Hollow found a one-acre tract that had been overlooked. Cornelius Frieson, one of the early settlers in the community, had deeded the one acre to a church organization which disbanded and the land reverted back to him. Frank Hollow boldly started a well.

The well found a chat formation dry and it was drilled to the Hunton lime and opened up the first Hunton lime production in Kansas. For a year Hollow was able to market only a small amount of the oil. It was only about three months ago that wells in this area were able to find a market outlet.

Since the discovery 26 producing wells have been completed in the area, six are producing from the chat and 14 wells from the Hunton lime. Operators with production in the area include, Stanolind Oil & Gas Co., Shell Petroleum Corp., W. C. McBride, Inc., Sinclair Prairie Oil Co., Frost, Study and others, Tidal Oil Co. and Producers & Refiners Corp. and Hollow.

Frank Hollow and others also opened a new producing area a mile to the north of the first well, the northerly well which is higher on structure and wells in the north extension area are larger producers. Many believe that this producing area which extends from the original Hunton area to the southern part of McPherson County will be one of the major producing fields in the State when fully developed.

Wells in this area are now permitted to produce 375 bbls. each per day and the oil is being purchased by the White Eagle Oil Co., Skelly Oil Co., Derby Oil Co. and Stanolind Pipe Line Co.

Fourteen new wells are expected to be completed in the area within the next few weeks, and these will call for offsets.

The producing area has not been defined except to the northeast where the first failure was recently completed. Some geologists predict that down on the edges of the structure the chat formation will yield considerable oil. The high part of the structure is found in the area around the wells in Section 17-22-3w.

First Failure in Mabee Pool

The Lario Oil & Gas Co.'s No. 1 Krehbiel, SW cor. Section 27-21-3w, is the first failure to be drilled in the Hunton lime area of the Mabee Pool, in McPherson County. This test found the Hunton lime at 3,472-3,530 feet, and the Wilcox sand at 3,850-53 feet. It indicates that the eastern limit of the producing area has been found. The completion of this well is considered an important factor in determining the size of the structure and the number of producing acres in the pool. The Hunton lime did not have any gas, oil or water.

In the south extension of the Mabee Pool, Shell Petroleum Corp.'s No. 1 Voth, SW cor. NW Section 4-22-3w, made 927 bbls. of oil on a 12-hour potential test, giving the well a production of 1,854 bbls. of oil in 24 hours, from the Hunton lime. It is the second well to be completed in the southwest extension area and is the north offset to the Lee and others No. 1 Wall, which has a potential of 1,600 bbls. a day. The extension area of the Mabee Pool is a little over a half mile southwest from the main part of the field, which is located in Section 33-21-3w.

In the shallow areas of Greenwood County, two wells were completed during the week. Lilly & Katz and others' No. 2 Wilkerson, CWL NE NW Section 7-25-9, made 25 bbls. from the Bartlesville sand at 2,216-38 feet. It was given a 70-quart shot.

Mendenhall and others' No. 4 Johnson, NE cor. Section 8-25-13, in the Quincy district, made 25 bbls. from the Bartlesville sand at 1,447-1,503 feet.

Boyle and others' No. 1 Frankhouser, NW cor. NE SW Section 17-24-10, a wildcat test north of Eureka, was a failure. There was no Bartlesville sand and the test found the Wilcox sand at 2,907 feet and the Siliceous lime at 2,927 feet and it was abandoned at 2,932 feet.

Barton County

Hilligoss and others' No. 2 Isern, NE cor. SW NE Section 12-20-11w, is a location. Same operators' No. 3 Isern, SW cor. NE NE Section 12-20-11w, is a location. Skelton Oil Co.'s No. 1 Ott, C SE SE Section 16-19-14w, was dry and abandoned at 3,605 feet.

Butler County

Rainsey and others' No. 3 Simpson, CSL SW NW Section 5-27-6, was dry and abandoned at 3,179 feet.

Ellsworth County

Slick, Pryor and Lockhart's No. 1 Hogan, C SE NW Section 12-17-10w, was drilling at 1,400 feet. Eldorado Refining Co.'s No. 6 Stratman, SW cor. SE Section 1-17-10w, was completed for 960 bbls. from 3,257-70 feet.

Greenwood County

Empire Oil & Refining Co.'s No. 1 Fromme, NE cor. SE NW Section 14-22-11, made 45 bbls. from 1,905-37 feet. Theta Oil Co.'s No. 1 Wasson, NE cor. NW SE Section 22-22-12, was dry and abandoned at 1,721 feet.

Harvey County

Mid-Kansas Oil & Gas Co.'s No. 4 Duerkson, NE cor. SE NE Section 19-22-3w, is a rig. Producers & Refiners Corp.'s No. 2 Martens, SE cor. SW SE Section 19-22-3w, was drilling at 2,000 feet. Stanolind Oil & Gas Co. and others' No. 2 Frose, NW cor. SW NW Section 20-22-3w, was drilling at 1,800 feet. Shell Petroleum Corp.'s No. 2 Nikkel, NE cor. SW SW Section 8-22-3w, is a rig. F.

(Continued on Page 59)

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Skelton Oil Co.'s No. 1 Ott C SE SE Sec. 16-19-14w	Dry and abd. 3,605 ft.
Noble Drlg. Co.'s No. 1 Grant, SW SW Sec. 4-20-11w	T.D. 3,362 ft; P.B. to 3,325-35 ft. to test.
Rankin et al's No. 1 Scoog, C SW NE Sec. 34-18-12w	Drlg. 2,775 ft.
ELK COUNTY	
J. Hayes' No. 1 Palmer, NE NW Sec. 36-31-10	Drlg. 1,600 ft.
ELLSWORTH COUNTY	
Rex Etnyre's No. 1 Arnsman, C SW SW Sec. 10-15-7w	Rig.
GRAHAM COUNTY	
Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w	Fishing 4,180 ft.
GREENWOOD COUNTY	
Reeser & Chriswell's No. 1 Wright, C SW SW Sec. 28-25-16	Spudding.
Wright's No. 1 Madren, SW SE SW Sec. 29-22-12	Machine.
Knight et al's No. 1 Moser, NE SW SW Sec. 33-22-12	Machine.
McPHERSON COUNTY	
Darby Pet. Co.'s No. 1 Bruckey, NE NW NE Sec. 24-19-1w	Drlg. 2,600 ft.
Gaume & Maxwell's No. 1 Goering, NE SE SW Sec. 24-23-3w	Rig.
Investors Mineral Dev. Co.'s No. 1 Kaufman, SE Sec. 35-21-3w	Rig.
Lario O. & G. Co.'s No. 1 Wilke, C SE NE Sec. 34-20-4w	Wtr. 3,850-53 ft.; T.D. 3,880 ft.; abd.
Roth & Farout's No. 1 Swanson, NE SW NE Sec. 13-19-3w	Rig.
PRATT COUNTY	
Ninnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w	Drlg. 4,000 ft.
RENO COUNTY	
Roth & Farout's No. 1 Yoder, C NW NW Sec. 15-24-5w	C.O. 325 ft.
RICE COUNTY	
Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w	Drlg. 1,700 ft.
ROOKS COUNTY	
Kruger's No. 1 Rathburn, SE NW SW Sec. 14-9-16w	Rig.
SALINE COUNTY	
Dister, Warren and Lario O. & G. Co.'s No. 1 Fulton, SW NW Sec. 14-16-3w	U.R. 2,852 ft.
SEDGWICK COUNTY	
Carter Oil Co.'s No. 1 Rowley, C E½ NE NE Sec. 30-25-3	Drlg. 3,000 ft.
STAFFORD COUNTY	
Atlantic Oil Prod. Co.'s No. 1 Gates, NW SE Sec. 27-21-13w	Drlg. 3,310 ft.
SUMNER COUNTY	
Deal O. & G. Co.'s No. 1 Tompkins, SW cor. Sec. 26-32-1	Drlg. 2,900 ft.
WOODSON COUNTY	
J. Cooper's No. 1 Quigley, SW SE SE Sec. 15-25-14	Dry and abd. 1,569 ft.

Interesting New Wells in Guadalupe-Caldwell Counties, Texas, in Semi-Wildcat Areas

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., May 1.—F. L. Thomson's No. 1 Lawler, in Caldwell County, a wildcat, created some new interest the past week when it drilled into a crevice with total depth 2,045 feet and flowed while casing was being run into the hole. The location is about 1 mile southeast of the northeast end of the producing area of the old Luling Field which is producing from the Edwards lime at around 2,200 feet. A final test of the well was not expected till early this week. Due to the great variance of production in crevice wells in the Balcones fault zone there is no way of telling whether it will be a big well or a small one.

Along with it the week's news centered around the Magnolia Petroleum Co.'s No. 1 Williams, in Guadalupe, which was supposed to be in the chalk and a little high, and the Magnolia's No. 1 Porter, in southern Karnes, not fully completed at the close of the week but sure to make an oil well. North Duval County, which has been in the lead for some time as the center of interest, dropped back to second place but with a bunch of new tests being started that may start up something new.

Magnolia Petroleum Co.'s No. 1 Williams, in Guadalupe County, is approximately 2 miles southwest and in direct line with the Darst Creek Field. The field comes down close to the Guadalupe River and the Magnolia test is 2 miles on the other side. John F. Camp, over a year ago, extended the Darst Creek Field and brought it down to the river's brink. The Magnolia's No. 1 Williams at 2,363 feet was thought to be either in the chalk or close to it and in that event it will be plenty high enough to make a well, and a few more days drilling will take it into the Edwards lime for a final verdict.

Deep Test Looks Bad

Of the other Edwards lime tests, Teas & Gant's No. 1 Mikulec got the Edwards lime at 7,466 feet and drilled to 7,505 feet with nothing but an odor of sulphur and it looks like a failure. It is the deepest test drilled in that section of the Balcones fault zone and is located a few miles south of Smithville in Bastrop County.

Of the other Edwards lime tests there is no change in the situation and the Zavala Oil & Gas Co.'s (Adair & Daniels) No. 1 Gates, in Zavala County, at the extreme southwest end of the Balcones fault zone, is shut down at 5,303 feet for lack of water. In the Serpentine movement, Marts & Beavens were bringing in No. 1 Reyes late in the week. It is located north of the Yoast Serpentine Pool in southwestern Bastrop County and had total depth of 1,772 feet but was coring a little deeper after drilling the plugs and before beginning to swab.

Humble Oil & Refining Co.'s No. 2 Wilhelm, in the Hilbig Field in southern Bastrop County, got the Serpentine at 2,355 feet and after going 2 feet in and getting a showing of oil, set casing. This breaks the spell on that field. After getting some especially good wells in the pool in Serpentine, Humble drilled several failures which made the field look bad.

Around the Riddle Pool, after some failures there by other operators, Witherspoon has the No. 1 Harris, a little east of the two producers that constitute the field, in Serpentine at 2,175 feet and after coring is going to set casing and test and should be ready to complete the well this week.

Humble in Bee County

Humble Oil & Refining Co. failed to make a well in the Imogene Hall test, 2 miles southwest of the Pettus Field, in the Pettus sand, and has plugged back. It got a good looking sand at 2,754-76 feet but went through it with full sized bit and had no way of making a drill stem test, but it showed considerable oil in the ditch and slushpit. It is a new sand not found in the well drilled in the Pettus Pool. A test on it was expected this week and is watched with considerable interest.

Karnes County

Magnolia Petroleum Co.'s No. 1 Porter, in the extreme southern part of Karnes County, with sand at 3,351-56 feet, drilled plugs and was rigging up to swab late in the week. It is about a half mile north and slightly east of a group of a half dozen producers in Bee County, known as the North Pettus Pool, some of them gas wells and some oil wells in sand at that depth. The Magnolia Field amounts to an extension of the field across the line into Karnes County. There is of course a possibility that it may do more than result in an extension and make a real field out of what for more than a year has been a small affair.

The Magnolia well is practically the only test attracting much attention at this time in the Jackson trend territory northeast and southwest from Pettus.

Duval County

In northern Duval County, with the exception of a new crop of wildcats that are just getting started to drill the interesting tests have faded out. Last week the Jacqua & Crow No. 1 Hagist in southern McMullen County and following the Government Wells trend to the northeast, was abandoned at 2,465 feet, dry. The contract depth was 2,500 feet but conditions were such that it was thought a waste of money to drill the additional 35 feet and the operators were released from that clause of the contract.

This leaves southern McMullen County, which a few weeks ago was busy with wildcat tests, with nothing. However, existing contracts call for some more tests in southern McMullen County.

In northern Duval County some more drilling is promised around the William B. Stewart gas well in the Cole sand in Survey 362. It came in for a good well for dry gas but seems to indicate the chance of another pool to the northwest of the North Government Wells Field and deals are pending for some more tests on the block. Stewart's No. 1 failed to make a well in the Government Wells sand and was abandoned but some believe it was drilled a little too deep and had a chance of being a small well. No estimates put it better than a small well and possibly an east edge well. In that case and on that theory other tests are called for a little to the west of it, and arrangements are now being made looking to that end.

Of the other wildcats in northern Duval, Smith & Hunter made another 100 feet in the No. 1 Olivarez, 7 miles east of the North Government Wells Field, the last depth being 3,390 feet, but with nothing showing and Shasta's third test on the Peters ranch is down a few hundred feet.

Webb County

For the time being activity has shifted to the west into Webb County and Edwin M. Jones has got down 800 feet in his deep test, 20 miles west of production and quite a number of new tests are getting ready to start but are still locations.

Besides the Edwin M. Jones deep test just started, and the Calloway No. 1 Gates now down 2,200 feet and the Sengraves & Salsbury No. 1 Gates at 2,185 feet, there are four new wildcat propositions in northeastern Webb County that are due for a little attention. Will Ohlhausen has a location a couple of miles due west of the new Moca Field, and P. G. Rouse is down 1,000 feet on the No. 1 Withers, several miles north of the Moca Field, and Shankle and Roche are drilling in Survey No. 37, 4 miles northwest of the Carolina-Texas Field, and Shankle and Newton spudded in on the No. 1 Benavides, northeast of Oilton.

Miscellaneous

A committee of geologists has decided on the name Premont for the new field in southern Jim Wells County opened by the Magnolia Petroleum Co.'s No. 2 Seeligson. The well has been pinched down and was flowing about 50 bbls. a day and has put into storage on the lease a total of 1,525 bbls., flowing through 2-inch tubing.

Schneider's No. 1 Classin, in northern Bexar County, is thought to be in the Pennsylvania at 1,737 feet. It stood shut down for many months but resumed drilling lately.

Southwest Texas at this time has not a solitary field where there is active development. Last week there were four producers completed in the North Government Wells Pool and one test, Magnolia Petroleum Co.'s No. 1 Hahl-Burch, was in the sand with casing set and was drilling plugs. The Texas Company has started the No. 7 Wendt, and Navarro Oil Co. had started the No. 6 Hahl, and Sun Oil Co. was down for a good start in the No. 1 Weiderkehr. That field heretofore has been the most active spot in all Southwest Texas.

In the Sarnosa Pool there is one location and two derricks. Hence active field development in Duval County is almost at a standstill.

Only one test is being drilled in proven acreage in Starr County and it is headed for a deep sand. In Saxet, drilling is materially slowed down and Humble's new field in Bastrop having proven not so big as expected is going to give the industry no great amount of flush production. Southwest Texas is now in the hands of the wildcatters almost exclusively. In several of the old fields there are straggling tests and some deals carried in reports on the edge of the field that have every chance of being failures. Proven acreage drilling is the lowest it has been in more than a year.

Wildcat Operations in Southwest Texas

Week Ending April 29

Company, farm and location—	Remarks
ATASCOSA COUNTY	
A. Blume's No. 1 Shaw, 690 ft. from N line, 1,780 ft. from E line of 100-ac. tract in W. Farquhar Sur. No. 275	T.D. 735 ft; drlg.
Jacob, Bussini & Pickett's No. 1 Schroeder, 160 ft. from N and W lines of 159-ac. tract in Frederick Anthony Sur.	T.D. 1,100 ft; drlg.
O. W. Killam's No. 1 Seits, 1,700 ft. from NE line, 5,150 ft. from NW line of Cruz Landin Sur. No. 45	T.D. 1,652 ft; drlg.
BASTROP COUNTY	
Champion's No. 1 Rivers, center W½ of 800-ac. tract in Osborne Sur.	T.D. 2,100 ft; drlg.
J. E. Emanuel's No. 1 H. Klemm, 817 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	T.D. 263 ft.; resumed drlg.
Marts and Beavens' No. 1 Reyes, 750 ft. from W line, 150 ft. from S line of 68-ac. tract in Addison Lytton League	T.D. 1,772 ft; drilled plugs.
C. C. Shumway's No. 1 J. W. Buckner, 2,250 ft. from NW line, 1,150 ft. from NE line of farm in Wm. M. Jenkins Sur.	T.D. 2,510 ft; abd.
Teas and Gant's No. 1 Mikulec, 330 ft. to NW and SW lines of tract in Wm. Barton Sur.	T.D. 7,505 ft; drlg.
BEE COUNTY	
Humble Oil & Refining Co.'s No. 1 Imogene Hall, 1,815 ft. from SW line, 330 ft. from SE line of tract in Thomas J. Butler Sur.	T.D. 4,175 ft; P.B. to 2,776 ft.
John O'Neil's No. 1 Plummer, in NW part of county, 150 ft. from N and E lines of 640ac. tract in Sec. 34, Chessman Sur.	T.D. 2,956 ft; S.D. for orders.
BEXAR COUNTY	
C. I. Albertson's No. 1 Vogt, 2,100 ft. from N line, 240 ft. from E line of 237-ac. tract in Sec. 2 of S. McCollough Sur. No. 53	T.D. 480 ft; drlg.
Wm. V. Ballard's No. 1-A San Antonio Land & Dev. Co., 1,000 ft. from N line, 450 ft. from W line of tract in I. Perez Sur.	T.D. 1,154 ft; going on pump.
O. N. Beer's No. 1 S. W. Kearney, 150 ft. from S and E lines of 28-ac. tract in S. C. I. Perez Sur.	Rigging up.
R. S. Boling's No. 1 J. J. Appelt, 150 ft. from N and W lines of tract in M. Uriegas Sur.	T.D. 830 ft; pulling csg.
E. R. Byrd's No. 1 W. H. Russell, 750 varas from NE line, 54 varas from NW line of Fernandez Rodriguez Sur.	T.D. 1,340 ft; drlg. Buda lime.
LaSalle Oil Co.'s No. 1 City Sewage farm, 150 ft. S of Rilling Road, 450 ft. W of NE cor. of tract in D. Bustillos Sur.	Spudded in.
Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trussell's No. 1 Pruitt, 54 varas from E line of tract in Samuel McCollough Sur.	T.D. 1,065 ft; changing to rotary.
O. L. Ray's No. 1 Thos. Dillon, 3,500 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county	T.D. 630 ft; drlg.
J. Morgan Russell's No. 2 Brotze, 200 ft. W of No. 1. in Cordenas Sur.	T.D. 340 ft; drlg.

(Continued on Page 61)

Indifference Is Said to Have Been Responsible for California's Failure to Cut Oil Output

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Apr. 29.—Efforts to reorganize the administrative committee, whose principal function is to supervise and encourage curtailment of production, did not meet with much success during the past week and further plans will be held in abeyance until operators agree on some definite program. In the interim the curtailment program is in the hands of the state umpire, J. R. Pemberton. The members nominated by the Central Proration Committee to form a nucleus of the new Executive Committee for Equitable Curtailment consisted of R. A. Broomfield, H. P. Grimm, Ralph B. Lloyd, A. C. Mattei, H. F. Owen and H. B. Simcox. Kettleman Hills operators recently elected William Reinhardt of the Kettleman North Dome Association to succeed William Keck as chairman of the Kettleman committee. The Seal Beach Field committee has elected A. H. Bell of Continental as its chairman and H. B. Tompkins of Pacific Western as vice president. The Curtailment Committee has been rather lax during the past several months and this apparent indifference has been unfavorably reflected in curtailment work notably at Kettleman Hills, Long Beach, Huntington Beach and Santa Fe Springs. The failure to pursue an energetic course of action was a contributing factor toward the reduction in crude oil prices posted earlier this year.

A 10,000-Bbl. Well

Drilling operations in California were featured this week by the completion of a 10,000-bbl. well in the Kettleman North Dome Field by the Union Oil Co. and a number of smaller completions in other fields. The Union's new well, No. 3 Amerada King, has been officially completed at 10,000 bbls., although this figure does not represent its maximum production as it was severely beaned back immediately subsequent to completion as there was no object in determining its maximum flow. Under the agreement in effect at Kettleman Hills, operators are obligated to maintain production at a pegged allowable irrespective of the potential production developed. The Union, with three producing wells in the North Dome, could produce in excess of 25,000 bbls. per day but, like other operators in the same district, is only producing approximately 10 per cent of the potential. Completion of this well increases the potential daily production of Kettleman Hills to approximately 290,000 bbls. and, with several more wells nearing completion, the potential of this field will exceed 300,000 bbls. per day within another week or 10 days. No. 3 Amerada King was bottomed at 8,602 feet and is producing 10,800,000 feet of natural gas per day in addition to the clean 30.4 gravity oil. The Kettleman North Dome Association has just concluded drilling operations on No. 38-20-J and this project is expected to be tanking oil within the next 48 hours. In addition to this potential producer, Kenda has two other wells, No. 87-30-J and No. 61-32-J, which should be finished early in May. The Standard is also expected to complete another well or two in the North Dome in the near future and, unless something unforeseen develops, the Superior should have No. 6 Huffman on production within the next 10 days.

The Standard Oil Co.'s No. 6-29-V, which was finished in the Kettleman Middle Dome Field last last week flowing 1,250 bbls. of exceptionally clean 53.1 gravity oil and 30,000,000 feet of natural gas per day, definitely reveals the existence of a substantial accumulation in this district. No. 6-29-V, bottomed at 8,406 feet, was cleaned out to 7,835 feet and brought in as a commercial producer. A string of 7-inch was landed in this well at 6,951 feet and cemented through perforations and the well finished with a 4½-inch flow string hung at 7,579 feet. Completion of this new well came as a fitting reward for persistent effort and climaxes a period of several months spent in correcting mechanical trouble. At one time during the course of work several strings of drill pipe were lost and the outlook for a satisfactory completion appeared rather dubious.

Judging by the large quantity of gas produced and the high quality oil, the Standard's No. 6-29-V is undoubtedly producing from the upper part of the Temblor from a zone comparable with the Ochsner or Elliott high pressure zone found in the North Dome. Gas production from this new completion is being treated in a $200,000 absorption plant which the Standard erected in the Middle Dome last year in order to handle anticipated production. The plant was finished in October, 1932, but did not go into operation until early this week as the company's well was delayed with mechanical trouble for several months. Completion of No. 6-29-V has revived interest in the proposed unification of drilling and production activities in the Kettleman Middle Dome Field. The situation at the present time presents a splendid opportunity for real conservation if the interested parties should be amenable to such a proposal. The Secretary of the Interior is in a particularly advantageous position to retard drilling and production activities in the Kettleman Middle Dome Field. Standard Oil Co. would undoubtedly welcome a proposal to shut in No. 6-29-V and refrain from any further drilling if the Government permittees could be induced to approve a moratorium for a period of six months or a year.

Unless constructive steps are undertaken in the immediate future, we may anticipate the starting of several new wells within a reasonable period of time as Secretary of the Interior Ickes must proceed to protect the Government's acreage from undue drainage. The Petroleum Securities Co. requested a permit for the drilling of a second well on the Burbank property but Secretary of the Interior Wilbur, under the Hoover administration, filed the request in order that the new administration might have a free hand in the determination of the future policy to be pursued. The splendid drilling record established by the North Kettleman Oil & Gas Co. in No. 1 Lillis-Welsh, an outpost, appears elsewhere in this issue of The Oil and Gas Journal and consequently does not require any further comment, except possibly to call attention to the fact that the well is already down below 10,700 feet. No decision has been reached as to how much farther the well will be carried, although tentative plans announced several weeks ago set 11,000 feet as the maximum depth to which the well will be carried. With the 11,000-foot level less than 300 feet away and the well averaging approximately 1 foot of hole per hour, it is not at all impossible that this depth may even be exceeded if deemed advisable. Ed McAdams is of the opinion that he could reach the 12,000-foot level unless a twist-off or some other mechanical defect develops. Other operators interested in the North Dome have been assisting Mr. McAdams and may possibly appropriate sufficient finances to permit the continuance of drilling as this hole might possibly throw considerable light on the geologic column with reference to the Kettleman North Dome Field. The significance which attaches to the drilling of No. 1 Lillis-Welsh, aside from the remarkable depth reached, lies in the fact that the log of this well might prove useful in further development. Present production in the North Dome is coming from the Temblor formation and there is every reason to believe that the underlying Eocene will ultimately be found productive in this field. In the North Belridge Field of Kern County, operators are producing from both the Temblor and the Eocene. If the Eocene should be found productive in the North Dome it would greatly enhance the future reserves of the state, particularly in view of the fact that the Eocene rocks if found productive in the North Dome would undoubtedly prove a source of production in the Kettleman Middle Dome Field as well.

Long Beach

Three wells were put on production in the Long Beach Field during the week, the largest of which was No. 76 Signal of the Dabney-Johnston Oil Corp. This well, which was recompleted after being plugged back from 6,249 feet to 5,450 feet, was returned to production flowing 660 bbls. of 26.1 gravity oil and 1,100,000 feet of natural gas per day. The Dabney-Johnston's new well is located in close proximity to the Plymouth Oil Co.'s No. 10, a recent completion which registered a potential daily production of 2,050 bbls. per day. The Plymouth Oil Co. has beaned back No. 10 to 740 bbls. per day and is making preparation to recomplete No. 1 Goodyear, located a few locations south of No. 10 Signal. The Marine Drilling Co. completed No. 1 L. W. F. Barefoot and this project came in flowing 280 bbls. of 26.1 gravity oil per day. No. 1 L. W. F. was bottomed at 4,931 feet and is producing from 10 feet of formation, as the 6⅝-inch water string was landed and cemented at 4,921 feet. Woolner Oil Corp. recompleted No. 1 Long Beach, bottomed at 6,004 feet after redrilling the hole to 5,203 feet and landing a 4½-inch perforated liner. This well is pumping 245 bbls. of 25.4 gravity oil per day.

Dominguez

The Union Oil Co. successfully completed No. 30 Callender in the Dominguez Field of Los Angeles Basin and this new well, bottomed at 5,500 feet and finished with an 8⅝-inch water string landed at 4,452 feet and a 6⅝-inch liner carrying 1,043 feet of perforated, was swabbed in flowing 660 bbls. of 30.9 gravity oil per day. The Union is expected to chalk up another completion in this field within the next week or 10 days, as No. 20 Hellman is in the oil sand at 5,585 feet. The Shell, with a new rig recently erected for No. 44 Reyes, has material on ground for No. 45 Reyes, which is located 283 feet north and 341 feet west of the northwest corner of the Associated's DeFrancis lease. The Republic Petroleum is still working on No. 3 Childs in an effort to finish this well as a commercial producer. This hole, bottomed at 7,643 feet, has been plugged back to 4,305 feet, above which point the company will attempt to develop production in the first Callender zone.

Approximately 2 miles east of the Dominguez Field and about the same distance northwest of the Long Beach Field, the Peoples Oil & Gas Co. has started rig construction for a wildcat to be drilled in the near future. The decision to drill in this locality is based on a survey of a resume made covering a number of water wells drilled in the immediate area. Approximately 100 acres have been tied up and drilling operations are expected to get under way in the near future. The geological data is based on the logs of approximately 38 water wells drilled in and around the Virginia City area. This exploration work might appear to be unjustified, but at the same time the well has possibilities. The faulted condition in the area immediately east of the Dominguez Field may have resulted in an accumulation in the area now under

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	April 15		April 8			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	.....	.....	78,085	.....
Fuel oil	63,250	9,036	.....	.....	442,723	.....
Diesel and gas oil	.....	.....	87,690	12,527	1,014,084	116,890
Gasoline	229,794	32,828	394,057	56,294	2,325,503	1,688,623
Kerosene	.....	.....	.....	.....	411,076	.....
Foreign exports—						
Crude oil	182,871	26,124	159,330	22,761	2,062,447	2,772,942
Fuel oil	31,059	4,437	204,673	29,239	2,198,864	3,011,563
Diesel and gas oil	52,430	7,304	92,441	13,206	968,399	711,972
Gasoline	35,516	5,074	314,773	44,968	1,589,592	2,869,349
Kerosene	79,358	11,337	92,021	13,146	657,053	724,071
Naphtha distillates	.....	.....	.....	.....	.....	41,175
Coastwise-domestic—						
Crude oil	291,147	41,592	139,631	19,947	3,856,090	4,326,050
Fuel oil	120,822	17,260	156,187	22,312	3,157,982	4,407,396
Diesel and gas oil	.....	.....	22,989	3,284	430,155	487,765
Gasoline	328,368	46,910	224,170	32,024	3,506,665	4,237,091
Kerosene	.....	.....	2,748	392	67,123	46,358
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	280,531	70,995
Gasoline	.....	.....	.....	.....	239,016	213,707
Kerosene	94,556	13,507	.....	.....	406,405	.....
Lubricants	.....	.....	.....	.....	8,250	15,824
Foreign exports—						
Crude oil	176,261	25,180	55,050	7,864	629,722	491,284
Fuel oil	61,572	8,796	.....	.....	252,511	521,559
Diesel and gas oil	6,155	879	105,881	15,126	412,181	310,966
Gasoline	63,980	9,140	176,207	25,172	1,392,605	1,165,268
Kerosene	36,605	5,229	30,738	4,391	318,243	314,453
Lubricants	.....	.....	.....	.....	13,072	29,884
Coastwise-domestic—						
Fuel oil	.....	.....	.....	.....	785,253	762,761
Diesel and gas oil	.....	.....	10,491	1,499	153,041	176,747
Gasoline	102,658	14,665	29,471	4,210	1,105,882	934,570
Kerosene	.....	.....	4,782	683	54,851	29,969

lease by the Peoples Oil & Gas Co. There appears to be a downward thrust at the east end of the Dominguez Field and the escarpment in this area may be of more importance than is generally supposed. During the recent earthquake portions of the precipice in the east end of the Dominguez Field were displaced and slipped off. This sparsely settled area, by the way, was violently affected during the earthquake and resulted in one fatality at the Pacific Electric plant located a few miles south of Dominguez.

Huntington Beach

With the tabling of the measure proposed in the California legislature to prevent the whipstocking of wells on private property for the purpose of draining tideland acreage, work in the Huntington Beach Field is expected to show a little increase during the next month or so. Both measures, one covering straight hole drilling and another designed to prevent operators from whipstocking wells out under state tideland property in the Huntington Beach Field, have been killed in the Assembly Oil Industries' Committee and will consequently die a natural death. There are several wells under way in the Huntington Beach Seventeenth Street town lot area at the present time with one or two additional rigs going up. In the Inglewood Field of Los Angeles Basin, A. M. Kupfer is nearing the 5,700-foot level in No. 1 Sentous, an edge well, which is being carried on down in an effort to pick up a deeper zone. This well was still in hard brown shale at last reports but still has a chance as far as deep production is concerned. In the Montebello Field the Community Oil Co. has oil and gas showings on the ditch of No. 1 Germain, an outpost, but the importance of the showings logged remains to be determined. The Universal Consolidated has just passed the 4,600-foot level in No. 1 Cruz, an outpost located in the extreme eastern part of the field, but still has another 2,000 feet of hole to make before picking up the top of the Miocene. The Continental Oil Co. is rigging up No. 14 Bixbie and No. 6 Selover and McGrath in the Seal Beach Field of Los Angeles Basin preparatory to deepening them to a lower horizon. The former well has been producing from 4,647 feet and the latter from 5,420 feet. The Union is making preparations to conduct a production test on No. 3 Vidor in the Playa Del Rey Field some time during the next week and this well, bottomed at 6,098 feet, will land 6⅝-inch casing at approximately 5,800 feet. City Attorney Werner of Los Angeles recently informed the city council that existing ordinances contain sufficient authority for the removal of abandoned oil rigs in the Playa Del Rey Field and some action may be taken in the near future to clean up this area. The Recreation Commission recently advised the city council that there are 30 abandoned rigs and approximately 32 more derricks which appear to be abandoned. The Recreation Commission requested the opinion of City Attorney Werner in order to determine whether the Fire Prevention Bureau was empowered to remove these unused derricks, most of which are of wooden construction, and thus reduce the fire hazard.

During the past week the C. C. Harris Oil Co. filed abandonment notices on 23 additional wells located in the old Los Angeles City Field and brought the total number of abandonments to almost 100 within the past year. At the present rate there will not be very many wells left in the old Los Angeles City Field within another year or two, despite the lack of real estate transactions. Most of these wells are being abandoned in order to permit the extension and improvement of streets. The old Salt Lake Field is also pretty well cleaned out as the Associated and Gilmore Oil Co. have abandoned practically all of the wells located in the area north of Wilshire Boulevard and lying between La Brea and Fairfax Avenue. These wholesale abandonments in the Los Angeles City Field and in the old Salt Lake Field have removed a number of interesting landmarks familiar to oldtimers and are likewise of interest because of the oft-expressed opinion of geologists that certain sections of the old Los Angeles City Field presented exceptional deep zone possibilities.

Fruitvale

Two new wells were put on production in the Fruitvale Field of Kern County during the early part of the week, although neither project registered substantial production. H. W. Allen successfully completed No. 1 Forney, a new well in Section 21-29-27, after several weeks of hard work, but this project was good for only 102 bbls. of 20.8 gravity oil per day on the beam from 4,123 feet. The Fruitvale Oil Co.'s No. 1 in Section 15 was finished pumping 108 bbls. of relatively clean 21.9 gravity oil per day from 3,990 feet, the hole having been plugged back from 4,083 feet. Two new wells are being started in the Fruitvale Field and both, No. 2 Hasson of Cascade Petroleum, and No. 1 Anderson of the National Petroleum Co., should be spudded in shortly.

The General Petroleum has resumed work on a projected deep test to be started a little north of the McKittrick Field of Kern County and spud will undoubtedly be made some time during the early part of May, as rig construction is already well under way. The General Petroleum's projected test is located on the Lovitt permit in Section 10-30-21, with the Temblor expected to be encountered at approximately 3,800 feet. This wildcat will be watched with considerable interest because of the possibility that either Temblor or Eocene production might possibly be developed in the McKittrick Field. This district has exceptional possibilities and entirely justifies deep exploration work. Honolulu Consolidated has successfully completed No. 44 in the Midway-Sunset Field of Kern County and this new well, bottomed at 3,262 feet, was finished doing 212 bbls. of relatively clean 27.6 gravity oil and 590,000 feet of natural gas per day. Immediately subsequent to the completion of this well, the Honolulu Consolidated transferred the crew to No. 54 and has just spudded in this well, which is located in Section 8-32-24. The Union Oil Co. has been having considerable difficulty with sand trouble in No. 1 Keene in the Midway section of the field and this trouble has not yet been overcome. This new well, bottomed at 1,505 feet, is pumping 75 bbls. of oil daily along with 15 per cent sand.

Mountain View

Operators interested in the Weed Patch or Mountain View Field of Kern County are carefully following the outcome of work under way in that district by Dana Hogan and the Mohawk Petroleum Co., because if either of these two wells results in commercial production it may lead to additional development. It is reliably reported that the Shell is almost obligated to start 10 new wells within a short time after commercial production is developed in order to retain a number of leases held in this area. The Mountain View Field is still listed as a promising but undetermined potential field due to the fact that no well has yet been finished as a commercial producer. It is the prevailing opinion, however, that this area will ultimately be added to California's list of producing fields as the Shell's No. 1 Porter Day flowed for several hours at the rate of 2,500 bbls. per day on a preliminary production test conducted some three or four years ago. The Porter Day well will probably never produce any oil but the showings encountered confirm the theory of geologists and petroleum engineers that the Shell with another well or two will reveal the existence of commercial production in this area. It is quite possible that either Dana Hogan or the Mohawk Petroleum will have the distinction of finishing the first commercial producer in the Mountain View Field. The latter company picked up the top of the Santa Margarita at 5,740 feet and is at present rotating in a gray sand at 5,900 feet. The Shell's No. 1 Porter Day showed evidence of commercial production in the upper zone slightly below 5,700 feet, with the result that work on these two wells may prove of considerable importance during the next week or 10 days. The A. T. Jergins Syndicate is not making very fast footage in No. 1 Nissen, a wildcat located in the Sievert area southeast of Edison, but will probably make up for lost time in the near future as production is not expected above the 3,500-foot level.

Lost Hills-Belridge

The Associated has decided to land a string of 16-inch in No. 1 Williamson, a deep test which the company is drilling in the Lost Hills Field in conjunction with the Richfield Oil Co., due to mechanical trouble. The 22-inch casing landed in this well at 1,992 feet has proven defective at 180 feet and in order to increase the safety factor the company has just about decided to run and cement a string of 16-inch casing at approximately 3,314 feet. The company lost circulation in this well a week or so ago but only for a short time as it soon reappeared at the surface coming up around one of the corners of the rig. In the Gould Hills district, the Hub Petroleum Co., which recently took over T. H. Purman's No. 1, succeeded in finishing a flowing well. The flow was hot salt water and will probably result in a recement job on the 9-inch landed at 4,859 feet. Lincoln Petroleum Corp. is conducting a rather extensive structure survey in the Deivl's Den region of Kern County in order to determine the advisability of drilling a deep test. Eleven shallow core holes have already been drilled and the company will carry No. 12 down to approximately 2,000 feet before making any definite decision with respect to future development as the shallow core holes did not reveal anything of particular value. There are only three wells under way in the Belridge Field of Kern County at present and no further drilling is an-

(Continued on Page 78)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	4,390	sd. sh. drilling
Baldwin Oil Co., No. 9 Inglewood, Los Angeles Co.	7- 2-14	5,863	suspended
Kupfer, A. M., No. 1 Inglewood, Los Angeles Co.	17- 2-14	5,660	br. sh. drilling
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,094	suspended
Pacific Oil Inv. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,717	suspended
Wilmington Oil Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,390	cleaning out
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	cleaning out
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,200	sd. sh. drilling
Universal Consd., No. 1 Montebello, Los Angeles Co.	5- 2-11	4,718	sd. sh. drilling
Andrus & Hutcheson, No. 1 El Monte, Los Angeles Co.	11- 1-11	2,150	sd. sh. drilling
Willetts Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,074	circulating
Smith, J. A., No. 1 Saugus, Los Angeles Co.	32- 5-17	3,515	suspended
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	22- 1-18	767	hd. sd. drilling
Hudson Pet., No. 1 Newhall, Los Angeles Co.	1- 3-16	1,384	cleaning out
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 3-16	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32- 4-16	2,230	cleaning out
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	2,000	reaming
Nuoil Co., No. 1 Newport, Orange Co.	29- 6-10	3,901	suspended
Mineral Expl., No. 1 Capistrano, Orange Co.	8- 8- 7	4,302	to test
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3- 9	rig	rigged up
Spindletop Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Keeley, E. J., No. 1 Corona, Riverside Co.	21- 4- 6	700	sd. sh. drilling
Duncan, N. L., No. 1 Sagebrush, Riverside Co.	8- 4- 6	1,157	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	18- 2- 8	1,770	hd. sd. drilling
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2- 8	mtl.	bldg. rig
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 3- 6	mtl.	bldg. rig
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	680	suspended
Woods, D. H., No. 1 Salton Sea, Imperial Co.	7-11-16	774	suspended

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status:
Fairview Oil Co., No. 1-A Purisima, Santa Barbara Co.	18- 7-34	1,594	suspended
Listle, K. L., No. 1 Purisima, Santa Barbara Co.	33- 8-34	....	grade road
Standard Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	mtl.	bldg. rig
Duell, O. S., No. 1 Naples, Santa Barbara Co.	7- 4-29	5,132	suspended
Equity Oil Co., No. 1 Coal Oil Point, Santa Barbara Co.	24- 4-29	3,750	suspended
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	tideland	4,089	suspended
Bolsa Chica, No. 2 Coal Oil Point, Santa Barbara Co.	tideland	3,169	sd. sh. drilling
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	2,387	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,161	hd. sh. drilling
Indian Pet., No. 1 Rincon, Ventura Co.	tideland	3,484	cemented
Commander Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	2,400	suspended
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	1,232	suspended
Honolulu Cons., No. 1 Miguelito, Ventura Co.	23- 3-24	5,706	hd. sd. drilling
Continental, No. 2 Miguelito, Ventura Co.	23- 3-24	3,908	sd. sh. drilling
C. C. M. O., No. 3-A Miguelito, Ventura Co.	23- 3-24	1,990	hd. sd. drilling
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	5,991	teat; W.S.O.
Macrate, A. N., No. 1 Ojai, Ventura Co.	27- 4-23	2,071	suspended
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventura Co.	20- 4-21	1,863	test W.S.O.
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,090	br. sh. drilling
Hardison & Temple, No. 1 Timber Canyon, Ventura Co.	22- 4-21	248	suspended
Duell, O. S., No. 1 Timber Canyon, Ventura Co.	31- 4-20	316	suspended
Petro Prod. Co., No. 1 Timber Canyon, Ventura Co.	18- 4-20	3,902	hd. sd. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	22- 3-20	3,914	cleaning out
Wilshire Oil Co., No. 1 Bardsdale, Ventura Co.	12- 3-20	1,732	suspended
International Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,770	testing
Anderson, C. L., No. 1 Santa Susana, Ventura Co.	36- 3-18	1,030	recemented
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	5,399	1,500 B/D wtr.
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-29-21	315	suspended
General Pet., No. 1 McKittrick, Kern Co.	10-30-21	mtl.	bldg. rig
Casa Mera Oil Co., No. 1 Belridge, Kern Co.	29-28-20	1,693	sd. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	30-28-21	3,260	suspended
Milham Expl. Co., No. 24 Buttonwillow, Kern Co.	5-28-23	2,625	suspended
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Holloway, A. S., No. 1 Devils Den, Kern Co.	11-25-18	1,848	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	971	core hole
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	3,460	suspended
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Rio Cal Pet., No. 1 Shale Hills, Kern Co.	2-27-18	2,355	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	3,314	repair pipe
Seminole Oil Co., No. 1 Lost Hills, Kern Co.	29-25-21	rig	suspended
Caravel Pet., No. 1 Edison, Kern Co.	19-30-30	316	suspended
Jergins, A. T., No. 1 Edison, Kern Co.	20-30-30	2,611	sd. sh. drilling
Mohawk Pet., No. 1 Weed Patch, Kern Co.	30-30-29	5,864	gr. sd. drilling
Hogan, Dana, No. 1 Weed Patch, Kern Co.	32-30-29	5,803	sd. sh. drilling
Gen. Pet., No. 1 McKittrick, Kern Co.	10-30-21	mtl.	bldg. rig
Descanso Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	2,620	suspended
Gatton & Luethe, No. 1 Madera, Madera Co.	22-10-17	2,054	sd. sh. drilling
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-12-11	3,948	hd. sd. drilling
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	4,492	hd. sh. drilling
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	908	sd. sh. drilling
Kent & McDonald, No. 1 Carrizo Plains, San Luis Obispo	3-32-22	3,830	fishing
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Shell, No. 1 San Miguel, San Luis Obispo Co.	4-25-12	5,950	hd. sd. drilling
Guess, E. B., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., No. 1 Cloud, Kings Co.	10-23-19	1,200	P.B. 427 ft.
Dudley Dome Oil Co., No. 1 Dudley Ridge, Kings Co.	9-23-20	3,012	suspended
Tulaco Oil Co., No. 1 Ridge, Kings Co.	20-22-20	1,993	bl. sh. drilling
Knudsen & Schmidt, No. 1 Reef Ridge, Kings Co.	36-23-17	6,873	suspended
Kettleman Ridge Oil Co., No. 1 Avenal, Kings Co.	10-23-16	312	suspended
Magee & Stone, No. 1 Alpaugh, Kings Co.	34-24-22	5,060	abandoned
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-24-22	mtl.	bldg. rig
Dil-Harp Oil Co., No. 1 Delano, Tulare Co.	25-24-26	870	cleaning out
Napa Oil Co., No. 1 Griffith, Napa Co.	7- 8- 3	3,273	suspended
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,813	cleaning out
Rushing Oil Co., No. 1 Waterford, Stanislaus Co.	20- 3-13	2,631	suspended
Pacific Northern Oil Co., No. 1 Guinda, Yolo Co.	23-12- 3	3,062	gr. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16- 1	2,731	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	34-16- 1	343	sd. sh. drilling
D. & S. O. Synd., well No. 1, Glenn Co.	29-22- 5	mtl.	bldg. rig
Tehama Pet. Co., well No. 1, Glenn Co.	4-22- 5	3,578	gr. sh. drilling
Orland Synd., No. 1 Orland, Tehama Co.	31-23- 3	3,748	suspended
Marker Drlg. Co., No. 1 Orland, Tehama Co.	21-25- 5	3,030	suspended

Big Well in Zwolle Area Quits but Comes Back; Completions in Mississippi and Louisiana

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., May 1.—C. H. Lyons' big well in Zwolle, No. 1 Stille, Section 16-7-11, brought in last week with an estimated 1,000 bbls. through a barely cracked 4-inch gate valve, quit flowing after a day or two and came back later flowing 150 bbls. Evans Brothers' No. 1 Cranford, Section 20-9-13, Converse area of Sabine Parish, completed about the same time flowing 150 bbls. also went dead but came back with 100 bbls. after resetting liner. United Gas Public Service Co.'s deep well in Claiborne Parish, No. 1 Meadows, Section 13-21-5, was coring lime at 5,180 feet after a drill stem test at 5,144-80 feet developed nothing but 17 thribbles of mud.

Only five completions, two in Louisiana and three in Mississippi, were reported, all but one wildcat failures. The producer was Ben F. Smith's No. 4 Turner, NE NW Section 4-7-11, Zwolle district of Sabine Parish, Louisiana, pumping 50 bbls. from 2,389 feet. The other Louisiana well was O'Brien Brothers' No. 1 Long-Bell Lumber Co., NW NW Section 34-4s-6, Allen Parish, dry and abandoned at 5,827 feet. The Mississippi wells were George P. Adkins' No. 1 Woodland Hills, NW NE Section 26-6-1e, Hinds County, derrick abandoned; Stauffer & Kouri's No. 1 Bond, SE NE Section 18-2n-14, Lamar County, junked and abandoned at 3,026 feet, and Mississippi Oil & Development Co.'s No. 1 Adair, SE SE Section 36-21-3, Sunflower County, dry and abandoned in chalk at 3,511 feet. It is the third of five tests to be drilled on as many 25,000-acre blocks in the Delta country of northwestern Mississippi. Stauffer and Kouri are arranging to skid derrick and start a new hole.

New Locations

New locations listed were divided between Louisiana and Mississippi, three each. In Louisiana, M. H. Brogdon staked No. 1 Augurs, SE cor. Section 2-20-16, Oil City district of Caddo Parish. Two wildcats were begun in Rapides Parish along the Conroe-Jackson trend. Harry C. Pitts is moving in rig to drill No. 1 B. E. Smith Lumber Co. in NE SW Section 18-2n-1w, 12 miles south of Alexandria, and M. I. Richardson has location for No. 1 Long-Bell Lumber Co., NW NE Section 30-3n-2w, about the same distance southwest of town. Both are on the northern fringe of the belt that has had such a lease play during the last few months. Mid-Continent Crude Oil Purchasing Co. has begun drilling No. 1 Louisiana Long Leaf Lumber Co. in the SE SE Section 12-7-11, Zwolle district of Sabine Parish, and has surface pipe set at 122 feet. The Mississippi locations were: Julian Alexander, trustee's No. 1 Rice, NE NW Section 6-5-2e, Rankin County, just beyond defined limits of the Jackson gas field; Westbrook-Thompson Holding Co.'s (intimately associated with Mississippi Oil & Development Co.) No. 1 Knowlton, C E half Section 3-25-7, Bolivar County, began drilling April 19; Eastman-Gardiner Interests' No. 1 Bank of Deming, NW NW Section 26-8-15, Covington County, their third test on Eastman-Gardiner Lumber Co. land in Covington.

Shell Petroleum Corp. is reported to have taken a six months' option on 16,000 acres of the Trapp Syndicate's blocks in the northwest corner of Beauregard Parish and will go over it with seismograph before exercising the option. H. I. Morgan got the fish out of No. 2 Smith, Section 22-19-11, deep test on the south flank of the Bellevue Dome in Bossier Parish, and is shut down at 4,000 feet after making 30 feet more hole. E. B. Williams' No. 1 Allen, SE SW Section 11-18-11, Bossier Parish, is shut down at contract depth of 500 feet but may go deeper.

Caddo Parish Oil & Gas Co. went out of chalk at 1,865 feet on No. 1 Hawkins, Section 14-22-15, Hosston district of Caddo Parish, and shut down at 1,900 feet. Pyramid Oil & Gas Co.'s No. 1 Shuttleworth, SW NE Section 3-18-16, Blanchard gas district of Caddo, set 4½-inch casing at 2,731 feet, ran drill stem test at 2,748 feet and got an estimated 10,000,000 feet of gas. Ross Nelson and associates organized the Nelson Oil Corp. to drill a 2,000-acre block in Caddo and Bossier Parishes, 2 miles north of Shreveport, and will drill their well on the Taylor farm in Section 13-18-14.

Ohio Oil Co.'s No. 1 Phillips, SW SW Section 30-8-11, Zwolle district of Sabine Parish, used acid, testing only a small show of oil at 2,527 feet. In the Converse district of Sabine Parish, H. C. Lessenger's No. 1 Bowman-Hicks, SW SW Section 13-9-13, a mile and a quarter east of a producer, bailed dry at 2,301 feet. R. T. Henderson's No. 1 Sistrunk, SE NW Section 9-9-12, Sabine Parish, a wildcat, used acid and was arranging to swab tubing, total depth 2,079 feet.

After a show of gas at 2,092 feet and a drill stem test at that depth that failed to indicate a well, J. M. Moody's No. 1 Frost Lumber Co., Section 7-22-2e, Union Parish, drilled to 2,555 feet and is shut down. Wingfield and others' No. 1 Union Saw Mill Co., SW SW Section 27-23-1e, also is shut down at 3,193 feet in shale. R. E. L. Silvey's No. 1 Drake, NE NW Section 14-19-10, Webster Parish, which attracted considerable attention two months ago and failed to produce after setting 6-inch at 2,817 feet for a test of a show in sand from 2,824-29 feet, was drilling sand at 3,605 feet.

ARKANSAS

McDonald and Carroll's No. 1 Allen, SW SW, Section 2-19-26, Lafayette County, is showing gas with 1,650 feet, not the full string, of casing in the hole which has a total depth of 3,272 feet. After being shut down for three months operations had just been begun when a storm toppled the derrick. It was rebuilt and they started washing to bottom, got down 1,600 feet and the gas came in slopping mud over the rotary. The show was held down with heavy mud and the rig is shut down waiting for the remainder of the pay string. Location is 750 feet from a well drilled by Dixie Oil Co. a few years ago which also made more or less of a gas show. Sam E. Wilson's No. 1 Red River Lumber Co., SW SW, Section 10-19-25, Lafayette County, had 2 feet of sand at 2,786-88 feet that showed oil and salt water and cored water sand at 2,804 feet and shut down for orders. In Little River County, American Portland Cement Co.'s No. 1 fee, SW NE, Section 21-12-32, was still coring anhydrite at 2,280 feet.

Duluth-Arkansas Oil Co. plugged back on No. 1 Beck, NW SW, Section 34-15-26, Miller County, from 3,100 feet to 2,796 feet to test a show of oil at that depth which they passed up in 11 feet of sand from 2,785-96 feet. Fitzwater and others' No. 1 Norsen, SE SW, Section 20-15-27, is shut down for orders, claiming an oil sand at 2,671 feet. Jenkins Brothers' No. 1 Smith, SE SE, Section 32-15-26, topped anhydrite at 3,836 feet and was drilling at 3,950 feet in the same formation. Sorrell and Tidwell's No. 1 McCowan, NW SE, Section 22-15-28, was coring at 2,804 feet.

Tom Nash's No. 1 Union Sawmill, NW NE, Section 19-18-11, Union County, ran drill stem test at 3,147-60 feet and got five fourbles of salt water in 15 minutes and shut down for orders.

MISSISSIPPI-EAST TEXAS-ALABAMA

Dragon Oil Co. is arranging to set liner for a test on No. 1 Player, M. G. Noll Survey in Marion County, Texas, (second hole) at 2,409 feet, about where it made a good show of typical Trees City (Caddo Parish, Louisiana) light oil in the first hole which was junked during testing.

In Mississippi, United Gas Public Service Co.'s No. 1 Luce Packing Co., Section 25-15-6, George County, was drilling marl at 1,850 feet. Ferguson-Fuller and others' No. 1 Montgomery, NW NW, Section 26-6-1e, Hinds County, is whipstocking to pass junk at 2,497 feet. Lionel Petroleum Co.'s No. 1 Gaddis, Section 7-7-3w, is shut down in shale at 1,510 feet, and P. J. McAlpine's No. 1 Rye, Section 22-15-17, Monroe County, a quarter mile from Mississippi's first commercial well of any sort, a gasser, is shut down at 2,737 feet in hard sand.

Baker and others' No. 3 Rankinside, NE NW, Section 6-5-2e, Rankin County, Jackson gas field, topped gas rock at 2,353 feet, cemented 6⅝-inch at 2,353 feet and will test during the coming week. Foster Creek Oil Co.'s No. 1 Foster Creek Lumber Co., Section 12-2n-2w, Wilkinson County, another Conroe-Jackson trend test, was drilling sandy shale at 2,700 feet.

The only development reported from Alabama wildcats was H. H. Givens' No. 1 Ashman, Section 10-6-5, Baldwin County, setting 6-inch casing at 1,375 feet, total depth 1,393 feet.

Average Daily Runs

Due to a drop of 1,415 bbls. in Zwolle Field's production, daily average runs from the field during the last week show a net decline of 1,560 bbls. It would have been more save for a 200-bbl. increase in runs from Arkansas pools. Total runs were 58,530 bbls. of which 28,120 bbls. were from Louisiana pools and 30,410 bbls. from Arkansas. Daily average runs from the several pools were:

NORTH LOUISIANA	
Caddo, light	4,905
Caddo, heavy	1,545
Cotton Valley	625
DeSoto-Red River	1,670
Elm Grove	320
Haynesville	3,950
Holly	320
Homer	2,700
Pleasant Hill	255
Sarepta-Carterville	690
Urania	1,400
Zwolle	9,840
Total	28,120
Last week	29,880
Decrease	1,760
ARKANSAS	
Champagnolle	1,355
El Dorado	2,690
Lisbon	405
Miller County	50
Nevada County	605
Smackover, light	2,590
Smackover, heavy	22,200
Stephens	140
Urbana	375
Total	30,410
Last week	30,210
Increase	200
Both states	58,530
Last week	60,090
Decrease	1,560

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BOSSIER PARISH

Company, well, farm name, section and block—	Remarks:
Cryer Oil Co.'s No. 1 fee, 2,400 ft. N, 1,080 ft. E, SW cor. Sec. 25-19-12	Cmtd. 6-in. csg. 852 ft; drilled plug; W.O.
A. W. Phillips, tr.'s No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13	Set 6-in. with packer 1,607 ft.; bailed dry 1,714 ft; W.O.

CLAIBORNE PARISH

United Gas Public Service Co.'s No. 1 Meadows, approximately 100 ft. S, center E½ E½ Sec. 13-21-5	Cored lime 5,180 ft.
United Gas Public Service Co.'s No. 1 Temple, 1,340 ft. W, 660 ft. N, SE cor. Sec. 21-23-7	Cmtd. 9⅝-in. 3,932 ft; reaming to bottom; T.D. 4,065 ft.

DESOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-13	Drlg. 1,525 ft.
Mrs. A. L. Ibach, tr.'s No. 1 Rambin, 250 ft. S and E. NW cor. NE NE Sec. 32-11-11	W.O. 3,527 ft.

RAPIDES PARISH

Byers & Collingsworth's (was A. G. Beck et al's) No. 1 Hickman-Simmons Lbr. Co., 330 ft. S, 330 ft E, NW cor. Sec. 40-4-1e	S.D. fuel, 1,240 ft.

RED RIVER PARISH

Edward & Clay's No. 1 Delta Pecan Co., 1,600 ft. N, 450 ft. E, SW cor. Sec. 27-13-11	S.D. repairs, 2,400 ft.

SABINE PARISH

R. T. Henderson's No. 1 Sistrunk, 450 ft. N, 150 ft. W, C, Sec. 9-9-12	Arranging swab; T.D. 2,079 ft.
C. D. Lee, tr.'s No. 1 Whitney, 330 ft. N and W, SE cor. NW NE Sec. 19-9-14	Base chalk 2,167 ft; S.D.; W.O. 2,205 ft.

CONVERSE DISTRICT

Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13	Arranging deepen; T.D. 1,971 ft.
H. C. Lessenger's No. 1 Bowman-Hicks, 330 ft. S, 330 ft. E, NW cor. Sec. 13-9-13	Bailed dry 2,031 ft.

Arkansas

LITTLE RIVER COUNTY

American Portland Cement Co.'s No. 1 fee, 150 ft. S and E, NW cor. SW NE Sec. 21-12-32	Cored anhydrite 2,280 ft.

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Shell Company Test Definitely Proves Another Producing Area in Southern Polk County

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., May 1.—Completion of Shell Petroleum Corp.'s No. 1 Davis & Holmes, Mary C. Swinney Survey, southern Polk County, as a producer has definitely proved the Livingston area as another coastal oil field. The well came in late Saturday and flowed 353 bbls. of pipe line oil in the first 24 hours through various chokes from a half inch to an eighth inch. Pressure registered 590 pounds on the tubing and 1,160 pounds on the casing. The oil is approximately 39 gravity with temperature of 87°. Except for some small uncommercial oil encountered in a few wells drilled several years ago in the Sunshine district, 3 miles north of the Shell well, this is the first oil production in the county. It is located along what is known as the "Conroe trend" some 40 miles to the east of Conroe.

The well is in the Cockfield with bottom at 4,334 feet, where 14 feet of 4¾-inch screen was set with 2½-inch tubing to the top. The hole is cased with 7-inch pipe to 4,320 feet. Ever since a drill stem test was made April 11 in the sand at 4,326-34 feet, is has been assumed the well would make a producer as at that time it started flowing within seven minutes after the testing tool was opened and showed a pressure of 390 pounds on a quarter-inch choke.

Location of this well is a little less than three-quarters of a mile southeast of Dick Schwabb's No. 1 Carlton-Davis, a wet gasser completed in the same horizon last October. While that well indicated fairly conclusively the existence of an important field, operators have awaited the finding of actual oil before classing the area among the producing fields of the coast. The field is expected to be very similar to Conroe in physical characteristics and judging from the extent of leasing and prices paid for acreage several miles from the well a field of similar proportions is anticipated as at Conroe, little probably will be known of the area without a large amount of development.

Limits Established

However, to start with, limits have been established on the immediate west where Dick Schwabb and Shell Petroleum Corp.'s No. 2 Davis & Holmes drilled into salt water to a total depth of 4,438 feet and quit, and to the extreme southwest where Harrison & Abercrombie's No. 1 Carter was a dry hole. The latter was a couple of miles distant, leaving considerable acreage between open for development. A couple of miles to the north in the old Sunshine district where some small production and showings were found in the Hockleyensis, tests drilled to or through the Cockfield have been dry.

To the east and southeast at present there are no bounds and principal interest has been turned in that direction. Virtually all acreage within a mile or two of the well has been taken up in the intense leasing play which has been going on for a couple of months and in which prices as high as $750 an acre have been paid. These prices, however, have been based on from $250 to $300 cash with the remainder out of oil. The new well has given an aded importance to this acreage and an active development play, not only in the immediate district but extending across southern Polk County, is anticipated. Already several locations have been made and a number of others rumored.

Tomball District

The hottest spot on the coast still is the Tomball district of northern Harris County where two wildcats being drilled by Magnolia Petroleum Co. are nearing the horizon in which production is so confidently expected. The coming week should tell the story for these tests and on them hinges to a large extent the fate of the district. Both these tests, 3 miles apart, found the Hockleyensis marker high and now everything is in their favor. At latest report, Magnolia's No. 1 Martens, in the Joseph House Survey, was coring lime and shale at 5,096 feet, while No. 1 Kobs, 3 miles southwest in the lower J. M. Hooper Survey, was down 4,975 feet. So much is at stake in the way of exceptionally heavy lease and royalty investments which have been made in the recent play extended over a wide area of northern Harris County that these tests are the most watched and scouted wildcats drilled on the coast in many years.

Four tentative locations were made by the Standard Oil Co. of Kansas in the Tomball district the past week. One was on the William Juergens lease in the Joseph House Survey; a second was on the John Tollman tract, Joseph House Survey; a third on the C. Weirlich farm in the J. N. Hooper Survey, and the fourth just southeast of the Burlington and Rock Island station at Tomball. Stanolind Oil & Gas Co. already was reported as having a tentative location but this was unverified. All these locations are close around the Tomball townsite, in which and around which a number of permits previously had been taken out for locations by several independent operators.

Wharton County

In Wharton County, two new fields are in the making. Pure Oil Co.'s No. 1 Stewart on the Louise geophysical prospect late in the week was coring deeper in broken sand and shale showing oil at 6,172 feet. An attempt was made to get a drill stem test at 6,150-72 feet but the seat gave way and the test failed. This wildcat attracted considerable attention the previous week as a result of a drill stem test of a sand at 5,963-71 feet in which several fourbles of 38 gravity oil were recovered. That a commercial well could have been completed is believed but the company is making an exploratory test of the hole and so is coring deeper. On Shell Petroleum Corp.'s Lake View prospect, north of El Campo, Smith and associates have plugged back their No. 1 Mitchell, H.&T.C. Survey No. 8, to 3,250 feet to test gas sands encountered above that depth. The hole was drilled to a total depth of 6,875 feet, where drill stem twisted off in heaving shale. If drill stem tests are a guide, a commercial gas well can be completed in sands encountered at 3,064-3,121 feet and at 3,170-3,203 feet.

Manvel Extension

Extension of the Manvel Field, Brazoria County, to the northwest was effected the past week by completion of The Texas Company's No. 1 C. Natali, in Lot 43, Division E, Suburban Gardens Subdivision, H. N. Little Survey. The well, which is in the Oligocene at a total depth of 5,116 feet set 77 feet 7 inches of 6⅝-inch screen and came in flowing 42 bbls. per hour through a three-eighths inch choke. Tubing pressure was 490 pounds and casing pressure 625 pounds. Gravity of the oil is 28.2 degrees. Location has been made and rig is up for an additional test, No. 1-B Belcher, this to be 300 feet out of the north corner of the lease. Alpha Oil Co. also has rig up for No. 1 Paterson, a north extension test. The Texas Company's No. 1 Davis is drilling shale and lime at 3,312 feet.

Barbers Hill

Production on the north side of Barbers Hill Dome, Chambers County, also had an important extension in Humble Oil & Refining Co.'s No. 2 Kirby, which in sand at a total depth of 4,055 feet came in flowing at the rate of 672 bbls. in 24 hours through a one-half inch choke. The well was flowed into an open pit and then shut in for storage, showing a shut-in pressure of 650 pounds. The sand is under the salt overhang drilled through at 1,392-3,937 feet.

Batson Dome

The old Batson Dome, Hardin County, is attracting some interest as a result of showings encountered by Danciger Oil & Gas Co.'s No. 1 Hooks, a flank sand test 1,600 feet south of the shallow production on top of the dome. The test is in a sandy shale at 4,424 feet and is preparing to set casing to test. Around a number of old domes, such as Batson, there has never been any extensive development or exploration of possible flanking sands, early production having been centered on shallow sands or cap rock overlying the domes. The possibilities of deep sand production around these domes have been recognized, however, and considerable exploration is expected along these lines when conditions warrant.

Conroe

Developments in the Conroe Field were more or less routine, less than a dozen wells being completed and these were inside proven limits. Drilling activity reflected further curtailment with only approximately 50 rigs now in operation compared with around 100 a couple of months ago. The possibility of a general reduction in crude prices to balance the 10-cent posting made the past week for East Texas has discouraged the bringing in of new production at Conroe or in any other Gulf Coast field, particularly where sands are at depths of 5,000 feet and lower.

Gueydan

Pure Oil Co. has failed to make a commercial producer in its No. 2 Mulvey at Gueydan, Vermillion Parish, Louisiana, and is pulling screen to deepen. This well set 48 feet of 7-inch screen in a sand at 4,865 feet and flowed an average of 16 bbls. per hour for the first 16 hours but went dead. In response to swabbing it flowed by heads for several additional hours but failed to show sufficient pressure to flow. Same company's No. 3 Mulvey also is in sand showing oil at 4,278 feet and has run 7-inch casing at 4,248 feet to test.

Chambers County

Mills and Jones have a rig up for a test on Pure Oil Co.'s geophysical block in Chambers County. This will be the first test for the block and is on the Gau tract in the John S. Roberts Survey, 15 miles southeast of Anahuac. It is being drilled under a working arrangement with Pure Oil Co.

Gulf Coast Fields and Wildcats

Week Ending April 29

RACCOON BEND—AUSTIN COUNTY

Company, farm and location—	Remarks
Humble O. & R. Co.'s No. 5 Ollie Wilson, Wm. Harvey Sur., 2,491 ft. from NW line, 407 ft. from NE line	Shale 3,394 ft; cmtd. csg.

DAMON MOUND—BRAZORIA COUNTY

Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N, 45 deg. E of SW cor. of Blk. 28, Masterson Subd., and 140 ft. S, 45 deg. E, A. Darst Sur.	Salt 3,838-7,582 ft; T.D. 7,586 ft; drill pipe stuck.

MANVEL—BRAZORIA COUNTY

Alpha Oil Co.'s No. 1 Patterson, H. N. Little Sur., 150 ft. out of S cor. of 10-ac. tract (Lot 40)	Rig.
The Texas Co.'s No. 1-B Belcher, H. N. Little Sur., 300 ft. out of N cor. of "B" lease	Rig.
The Texas Co.'s No. 1 Davis, 350 ft. S 42 deg. W and 400 ft. N 48 deg. W out of E cor. of Lot 31, H. N. Little Sur.	T.D. 3,550 ft; drlg. sidetracked hole in shale and lime 3,312 ft.
The Texas Co.'s No. 1 Natali, 300 ft. S 42 deg. W and 300 ft. N 48 deg. W out of E cor. of Lot 43, Div. E, Suburban Gardens Subd., H. N. Little Sur.	Set 77 ft. 7 inches of 6⅝-in. screen, 5,116 ft; comp. 42 bbls. per hr.; ⅜-in. choke; 490 lbs. on tubing and 625 lbs. on csg.

BARBERS HILL—CHAMBERS COUNTY

Mills Bennett Prod. Co.'s No. 6-A Wilburn (W.O.), Henry Griffith League	Drlg. shale 5,070 ft.
Humble O. & R. Co.'s No. 3 Kirby, Henry Griffith League, 100 ft. W of E line of lease and 200 ft. N of No. 1	Set 12 ft. of screen, 4,055 ft.; comp. flowing 670 bbls. P.L. oil; ½-in. choke; 235 lbs. pressure.
Mills Bennett Prod. Co.'s No. 1-A Gulf fee, "B" lease, Wm. Bloodgood Sur.	Salt 4,416-5,169 ft; T.A.
Sinclair Prairie Oil Co.'s No. 11 Wilburn (D.D.), Wm. Hodges Sur.	Set 91 ft. of 5-in. screen, 4,924 ft; failed to flow; put on pump and pumping S.W.
Sun Oil Co.'s No. 16 Wilburn, Henry Griffith League, 150 ft. W of No. 14 and 50 ft. N of S line	Sand and shale 2,972 ft; blew out for 6 hrs.; killed.
The Texas Co.'s No. 3 Lawrence fee, Henry Griffith League, 740 ft. W of E line in center of tract	T.D. in salt 5,278 ft; sidetracked to anhydrite 4,559-62 ft; sidetracking 3,628 ft.
The Texas Co.'s No. 9 Wilburn, Henry Griffith League, 550 ft. E of NW cor. and 50 ft. S of N line	Sand showing oil 3,916-27 ft.; cmtd. 9⅝-in. csg. 3,875 ft.
Texas Gulf Prod. Co.'s No. 1 O. K. Winfree (W.O.), W. D. Smith Sur., 50 ft. from S line, 100 ft. from W line of tract	Drlg. shale and lime 5,583 ft.

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Cut Bank Field, Montana, Extended Four Miles; Utah Is to Have New Test in Grand County

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., May 1.—The Cut Bank oil field in Glacier County, Montana, was extended 4 miles north in Santa Rita Oil & Gas Co.'s No. 1 Blackfeet, which swabbed 135 bbls. first 24 hours. Four locations in Cut Bank area were reported. The Ohio Oil Co.'s No. 9 Souders, in Dry Creek, is showing oil and gas in the Lakota. Imposition of heavy tax burdens on the oil industry in New Mexico appears to have been a boomerang and taxpayers have petitioned the governor to call an extra session of the legislature to repeal some of the measures. The California Co. is completing a good well in the Hobbs Pool, estimated at 120 bbls. per hour. Three locations were reported in Eddy County. A 6,000-foot test is starting in Rio Arriba County.

In Colorado, the fate of the Anthes test in the New Raymer district is hanging in the balance. A Pennsylvanian test in the southeastern part of the state is spudding.

Wyoming had only routine operations to report with no completions or new locations. Utah is to have a new test of the Green River structure in Grand County.

NEW MEXICO

Repercussions from the recent tax legislation by the New Mexico general assembly affecting the oil industry have not died down by any means and operators, as well as the public, are giving serious consideration to the situation. Representatives of various taxpayers' associations met at Albuquerque and petitioned Governor Seligman to call a special session of the legislature to deal with the matter. The resolutions adopted favored, among other things, the repeal of the severance tax law adopted by the assembly at its recent session, the revision of the present ad valorem tax on oil and gas and the repeal of the tax of 4 cents per gallon on lubricating oil.

Executives of the New Mexico Oil Men's Association have the situation under consideration and are studying certain recommendations made to William Dooley, president of the association, by J. O. Seth, attorney, of Santa Fe, at the request of Van S. Welch and Harry Leonard. The law passed by the legislature imposing a 4-cent tax on each barrel of crude oil produced carried the emergency clause which declares that its enactment is necessary for the preservation of the public health, peace and safety. This clause usually is inserted in a measure to make it effective without waiting for a possible referendum to the voters. The Supreme Court of New Mexico has never passed upon this clause. Decisions in other states are somewhat in conflict, but the weight of authority apparently is that the mere declaration of a law that it is necessary for the preservation of the public health, peace and safety is not conclusive on the courts and the courts have the right to determine the question for themselves. Attorney Seth expresses the opinion that the only way to test the validity of the law is to proceed with the filing of petitions for a referendum on the measure with the Secretary of State and then to take action to compel the placing of the measure on the ballot if that official refuses to do so. There are several other matters regarding taxes imposed upon the oil industry under consideration by the association.

May Abandon Leases

The Artesia Advocate, in last week's issue, has the following to say:

"With the gloomiest outlook facing the oil industry since development started here in the early twenties, oil men freely predicted that there would be a wholesale abandonment of state leases within the next 12 months, unless conditions changed or unless the burden of taxation is lifted from the industry. An independent company here reports that it has turned back to the state 2,000 acres of leases. A portion of these leases are located near the Hobbs Field and all drew an annual rental of 50 cents per acre per year. One conservative source estimates that more than 100,000 acres of state leases will be released in the next 12 months; others figure that the leases turned back will be much greater. It is understood that major companies, independents and individuals are carefully selecting the acreage they hold and are preparing to turn back all except choice leases."

Lea County

The California Co. has a good well in its No. 2 McKinley, C SW NW Section 20-18-38, in the northeastern part of the Hobbs Pool, a south offset to Skelly Oil Co.'s No. 1 McKinley. A company estimate places the production at 120 bbls. per hour. It topped the Terry at 4,164 feet and is bottomed at 4,241 feet.

Humble Oil & Refining Co.'s No. 1 Hardin, SW cor. NW Section 18-18-38, an edge well at the extreme north end of the pool which swabbed 100 per cent water at 4,247 feet and failed to improve upon plugging back, is drilling deeper in hopes of picking up a lower pay. It is drilling at 4,466 feet in lime. Amerada Petroleum Corp.'s No. 3 Hardin, NW cor. SW Section 18, an offset to the Humble well, is shut down at 4,160 feet waiting for orders.

Texas Pacific Coal & Oil Co.'s No. 4-G State, SW cor. NE Section 24-18-37, on the northwestern flank, is drilling at 3,330 feet in anhydrite. Stanolind Oil & Gas Co.'s No. 29 Byers, C SW NW Section 3-19-38, in the southern part of the pool, is drilling at 2,850 feet after cementing 10¾-inch at 2,788 feet with 450 sacks. Same company's No. 8 State, C NW NE Section 9-19-38, cemented 10¾-inch at 2,808 feet with 450 sacks and is waiting.

In the Eunice area, Atlantic Oil Producing Co.'s No. 1-B State, C NW SE Section 8-21-36, which looks as if it will make between 1,200 and 1,500 bbls. of oil and 3,000,000 to 5,000,000 feet of gas per day at a total depth of 3,901 feet, is shut in for pipe line connections and has not been gauged.

In the Lea area, The Texas Company's No. 3-A Lynch, C NW NE Section 34-20-34, has a crooked hole at 340 feet.

In the Jal area, Continental Oil Co. and California Co.'s No. 1-A Wells, SW NE NW Section 12-25-36, is drilling at 1,775 feet in salt and potash, and E. B. Guess' No. 1 Conditt, C SW SW Section 12-25-36, is drilling at 400 feet in sand. The Texas Company's No. 1-B Shepard, NW cor. SW Section 5-26-37, is fishing for bailer at a total depth of 3,184 feet.

Eddy County

Three locations were reported in Eddy County, one by Flynn, Welch & Yates in the Artesia area in their No. 66 State, in Section 30-18-28, and two by Poole Oil & Gas Co. to the south of Carlsbad. The last named are No. 2 State, SW cor. NE Section 15-24-27, and No. 3 State, SE SW NW Section 32-24-27. No. 3 is an old potash test which will be deepened from 1,320 feet.

Harry Leonard and Barnsdall Oil Corp.'s No. 1 Dodd, SW SE SW Section 22-17-29, Jackson area, swabbed 17 bbls. of oil in 24 hours from 2,714-18 feet. A flow of 6,742,000 feet of gas at 2,307 feet is being saved between casings.

R. Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek, is shut down for repairs at 1,536 feet.

Chaves County

Warman Oil Trust's No. 1 Weldon & Hoar, NW cor. SE Section 9-14-25, Blackdom district, is shut down at 855 feet.

De Baca County

Landowners Oil Co.'s No. 1 State, SW cor. NE Section 16-1s-27, Buffalo Creek, is shut down at 5,860 feet. Matador Oil Co.'s No. 1 Wood, NE SW SW Section 6-4n-20, Salada Creek, was reported last month drilling at 5,667 feet in lime and shale. This possibly is an error as a party recently in that vicinity says the rig has been moved away. It was reported down 4,666 feet last June with tools and drilling line in the hole.

Santa Fe County

Kelsey Clients Development Estates' No. 2, Section 22-10n-10e, is reported a location. Rig is to be moved from No. 1, Section 26, which was abandoned in granite at 1,050 feet.

Guadalupe County

Anton Chico Development Co., Ltd.'s No. 1 Anton Chico grant, NE cor. SW Section 20-9n-17, is drilling below 1,610 feet in the red beds.

Rio Arriba County

Pan States Oil Co., Ltd's No. 1 Tierra Amarillo grant, Section 26-3-1e, Elvado district, delayed last summer when J. A. Bennett, who had the drilling contract, was killed in an accident, has spudded in a 6,000-foot test with rotary outfit to the Pennsylvanian. This test is on the north dome. The company has a large block on the two domes, one of which has a closure of 500 feet and the other 600 feet.

Valencia County

Western Natural Resources Corp., Inc.'s No. 2 San Clemente grant, SW cor. NE Section 5-6n-1e, is drilling at 4,425 feet in red sandy shale.

San Juan County

Fred Barrett's No. 1 Hart, Section 11-29-11, Fulcher Basin, is drilling below 700 feet and has a show of oil and gas. Gobernador Oil Co.'s No. 1 Liken, SW

Completions in Michigan Field Increase; Porter District Holding Attention

By GEORGE A. WHITNEY

MOUNT PLEASANT, Mich., May 1. Pure Oil Co.'s No. 1, 2,310 feet from the south and east lines of the State-Porter farm, NW NW SE, Section 15, Porter Township, Midland County, estimated good for 5,000 bbls. initial, said to be the largest oil producer yet drilled in Michigan, has been pinched in, flowing from 80 to 100 bbls. an hour, because of insufficient tankage or pipe line facilities. It probably will not be given a 24-hour open flow gauge until Pure completes a new 6-inch line from the Yost lease to the Greendale tank farm. On a 40-minute gauge, partly choked in, the test flowed 190 bbls. of oil indicating a 200 to 250-bbl.-an-hour flow with possibilities of making more than 5,000 bbls. in 24 hours. The flow is being pushed out by a tremendous pressure. A gas flow estimated at more than 3,000,000 feet accompanies the oil production. Production is coming from a total depth of 3,396 feet, 24 feet in the Dundee, in what is regarded as the first pay sand. There are possibilities of at least 40 to 50 more feet of Dundee having other pay zones. Both in the farther south Porter wells and the Chippewa-Greendale wells second and third pays have produced heavier than the first pays.

One of the encouraging features of the State-Porter strike is that thus far there has been no water encroachment, said to be less than three-tenths of 1 per cent. Other nonlubricants, such as paraffin, that have showed up heavily in the Section 22 Porter wells are practically absent in the oil from this wildcat strike. The Dundee sand has greater porosity than other pay zones thus far developed. Because of the flow and pressure of the well, a large oil reservoir is indicated in the Porter area. Scouts are now "doping" the No. 2 Otway strike as a southern edge of the pool with the Yost lease in Greendale Township, a western edge. How far north and east the pool extends has not been determined. The strike is a mile due north of No. 2 Otway. The No. 2 Otway, No. 1 Mates and the No. 3 Otway, all in Section 22, are the closest completed wells to the State-Porter. A 2-inch line was run from the Otway lease to the well after first production had been obtained. Six feet deeper drilling brought the big pay, and the owners immediately put in a second line to the Otway lease, a 4-inch. Pure Oil Co. controls several thousand acres in the area, having Sections 15, 10 and 11 solid, and much of Sections 14 and 16 Porter Township. Other companies have leases packed around the Pure company's acreage and probably will start tests at once. Pure also is expected to do considerable development because of a growing demand for oil to fill its markets. The Atha Drilling Co. is the drilling contractor on the well.

Completions

More completions were reported from the Central Michigan Field than in any other week for a long time. Pure Oil Co.'s No. 7, 330 feet from the north and east lines of the Charles D. Mallett farm, NE NE NE Section 15, Greendale Township, Midland County, showed an initial of 650 bbls. from the Dundee. Its No. 5-A, 1,650 feet from the north line and

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NE SW Section 12-29-9w, Blanco district, is fishing at 2,258 feet. Kutz Canon Oil & Gas Co.'s No. 1 Day, SW cor. Section 20-28-10, Kutz Canon, is waiting for sand line at 4,075 feet.

WYOMING

Fremont County

The Texas Company's No. 2 State-Ridgway, SE SW SW Section 36-34-95, Alkali Butte, tested the Sundance sand at 4,925 feet after plugging back from 5,460 feet, but the gas proved uncommercial and salt water came in. Efforts are being made to pull the 6⅝-inch and plug back to the Morrison and test.

Weston County

The construction of small topping plants in the Osage district continues at the rate of close to one a week. A. F. Lesley, of the Egaso Operating Co., was elected president of the Osage Oil Producers Association, to succeed Pierre La Fleishe, who recently was appointed state oil and gas inspector. Frank V. Eaton, of the Walda Oil & Gas Co., was elected vice president; F. W. Palis, of the Northwestern Petroleum Co., treasurer; and Charles Wescott, secretary.

General Oil Co.'s No. 1, NE NW SE Section 22-46-64, Osage Field, is shut down at 2,180 feet on top of the sand waiting arrival of officials before drilling in. Jones, Rose & Harberson's No. 3 Thierry, NW SW SE Section 31-46-63, is drilling below 600 feet.

Natrona County

Bessemer Oil Co.'s No. 7, NW Section 13-33-82, Poison Spider, is bottomed at 910 feet and running pipe for a water shutoff. Mutual Oil Syndicate's No. 1 Core test, NE NE Section 23-35-79, Midway Dome, is resuming at 2,000 feet. Leo B. Murphy and others No. 1, SE NW Section 29-33-80, North Platte, is waiting for fuel at 840 feet. Triangle Oil Co.'s No. 1 Ames, SE cor. Section 29-36-85, North Boone Dome, is drilling at 400 feet. Pumping equipment is being moved out to test a show of oil in the Shannon sand in an old well on the lease drilled by Ohio Oil Co. a number of years ago. Oil was standing in the hole when the new operators started to clean it out recently.

Albany County

S. Marvin James & Co.'s No. 1 Hindry, C SW SW Section 10-13-76, Riverside district, is waiting at 500 feet for 8¼-inch casing delayed by the storm.

Carbon County

Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Pass Creek, is drilling below 300 feet.

Sweetwater County

Mountain Fuel Supply Co.'s No. 2 Mullen, SW NE SE Section 2-17-104, South Baxter Basin, is drilling at 1,792 feet in the Frontier, and its No. 2 Cappers, SW cor. NW Section 12-19-104, North Baxter Basin, is drilling at 2,015 feet above the Frontier.

COLORADO

Gov. Edwin C. Johnson, of Colorado, vetoed H. B. 347, known as the oil conservation act and in doing so, gave a friendly, although indirect invitation to oil operators in other states to come into Colorado and help develop its oil resources. In his veto message he said: "While a measure of proration may have merit in the larger oil producing states, there is no need for it at this time in Colorado, and its effect undoubtedly would be to retard the exploration and development of new oil fields that are badly needed in this state."

The proposed law created a new commission out of the old gas conservation body, which was never active, and made the state oil inspector chief administrative officer with broad powers to regulate drilling; to determine production costs; to shut in wells selling oil below cost; to prorate production among wells in one or more fields and in the entire state; and power to fix prices. It also provided machinery for an interstate pact.

Prowers County

Shastatex Oil & Gas Co.'s No. 1 Lotus Oil, NW NE NE Section 15-23-46, Lamar district, a Pennsylvanian test to be drilled jointly with the Trojan Oil Co. with cable tools to 4,000 feet, was scheduled to begin spudding April 26.

Weld County

Continental Oil Co. and others' No. 1 Anthes, C NE NE Section 24-8n-59, New Raymer district, which is being watched by numerous scouts from all of the principal oil states, began coring Monday night at 6,480 feet. The first time the barrel was pulled it brought out about 9 feet of shale, showing the Muddy sand had not been reached. Coring then was resumed and at 6,501 feet the barrel again was pulled. Practically no core was recovered, however, except for a few broken pieces of shale. The cones were badly worn and operations were suspended until a new set arrived. The Muddy apparently has not yet been tapped, but in the absence of a core, it is not definitely known what has taken place. A scum of oil reported showing on the slush pit may be from a show at approximately 6,407 feet. Similar shows 100 feet above the sand have been found in most of the wells drilled in that area.

Park County

South Park Oil Co.'s No. 1 Milligan, NE cor. SE Section 13-8s-76, Jefferson district, is running 4½-inch to bottom at 3,020 feet and will carry. South Park Oil & Gas Co.'s No. 1 Esche, SE cor. NW Section 5-9s-76, is bottomed at 2,465 feet and fishing for pipe.

Montezuma County

The well being drilled by the National Park Service in the Mesa Verde National Park, near Spruce Tree Camp, Section 9-34-15w, encountered water in the Navajo sand at 4,085 feet. The water, which is soft and apparently of a desirable quality, rose 2,700 feet in 10 minutes.

Moffat County

Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12n-100, Hiawatha Dome, a 7,000-foot test with rotary, is moving in materials.

Larimer County

C. Leonard Smith's No. 2 Union Pacific, SW cor. Section 31-12-69, Sand Creek, is running 8¼-inch to bottom at 516 feet.

Routt County

Mid-Colorado Petroleum Co.'s No. 1 Omholt, NE cor. SE Section 29-4n-87, Fish Creek, will resume about May 10.

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Alberta Production Shows a Decided Upturn; New Test in South End of Turner Valley

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Apr. 29.—Crude oil production from the Alberta fields for March showed a decided upturn in comparison with February totals, and even a considerable increase over January. Turner Valley naphtha production for the month of March totaled 69,306 bbls. compared with 57,202 bbls. in February, the increase being largely due to completion of Mar-Jon-Freehold's No. 1 in South Turner Valley, with a large naphtha production. Turner Valley light crude was 2,158 bbls. in March against 1,739 bbls. in February, and light crude from the Red Coulee and Border areas increased from 2,760 to 3,095 bbls. Heavy crude deliveries from the Wainwright Field were 666 bbls. in March against 650 bbls. in February. The total for all Alberta pools went up from 62,227 bbls. in February to 75,225 bbls. in March.

Handling losses in the Turner Valley Field amounted to 6 per cent during the month. Sales slightly included production, and stocks of oil in storage in Turner Valley at the end of March amounted to 37,287 bbls.

North Turner Valley

In the North Turner Valley Field, Model Oils' No. 2, LSD 16, Section 22-20-3w5, has encountered a small production of light crude in the first oil sand at 5,103 feet. While the production is only slightly over a barrel a day, the show checks with a similar showing encountered in Model's No. 1, about a half-mile farther south in the same section. The log indicates that No. 2 is somewhat higher and that the formations are slightly thinner at that depth, the Home sand being 50 feet higher at 4,950 feet; the fossil beds 100 feet higher at 5,000 feet and the first oil sand 117 feet higher at 5,103 feet. At last reports the test was deepening at 5,140 feet with expectations that the limesone would be encountered at about 5,700 feet. The potential light crude horizon of the Dalhousie, which gave a small commercial production in United Oils' No. 4 on the east flank of the structure, will be encountered before the lime is reached.

New Test in South End

Sterling Pacific Oil Co., which has two good producing wells in Section 34-18-2w5, in the South Turner Valley, has concluded a deal whereby Sterling Syndicate, organized by Robert Wilkinson and associates, will test acreage in LSD 1, Section 33-18-2w5. The location is in the southeast corner of the section, diagonally offsetting Merland Oil Co.'s No. 1 producer in Section 27-18-2w5. It is south of the Sterling Pacific producers in Section 34 and north of Mer-Jon-Freehold's No. 1 producer in Section 28; and in the center of the most active drilling area. It is expected to spud in some time in May.

Another new test may be started this spring on the Director Oils lease in the same area, recently bought by the Doherty-Roadhouse interests reported to be associated with Imperial Oil, Ltd., which has done no drilling in the Turner Valley Field for a year or more, but it is uncertain whether the company will be actively interested in a test on this acreage.

Oil Company Directors

Shareholders of the Royalite Oil Co., the principal Imperial Oil, Ltd., subsidiary in the Turner Valley Field, held their annual meeting at Calgary when the following officers and directors were elected: President, J. H. McLeod; chairman of the board, A. M. McQueen; vice president, Alexander Hannah, K.C.; directors, C. M. Moore, W. S. Herron.

Shareholders of Mayland Oil Co. elected the following directors: President, J. H. McLeod; vice president, Glen C. Hyatt; directors, Alexander Hannah, C. M. Moore, W. S. Herron.

Red Coulee Field

In the Alberta end of the Red Coulee Field, Devonshire Oils' No. 1, LSD 3, Section 10-1-16w4, is preparing to resume after cementing casing about 50 feet above the gas sand at 2,375 feet. The test is apparently a little lower than the Vanalta wells, 1 mile to the southwest, which got gas around 2,375 to 2,390 feet and their oil production between 2,490 and 2,507 feet. The Devonshire test should be drilled into production early in May.

Hunter Valley Test

In the Hunter Valley area, in the forest reserve west of Olds, Hunter Valley Oil Co.'s No. 1, Township 21-10w5, is reported practically rigged up.

Oil City Test

In the old Oil City Field, southwestern Alberta, Patrick Oils, Ltd., is reported preparing to resume work on its No. 1 test, Section 30-1-30w4. The test was spudded last fall and carried through hard formation to approximately 150 feet with 15-inch hole and it is planned to carry 12-inch hole from this point to production. Two distinct oil and gas shows have been encountered in the shallow drilling. The discovery well in this area, drilled some 30 years ago by the Lineham interests of Calgary, is claimed to have got a fair commercial production of high-grade crude, estimated 300 bbls. a day, at 1,050 feet after drilling only a few feet into the lime. In efforts to deepen the old well the tools were lost and the oil flow ultimately shut off.

Ontario Production

Official figures show that in 1932 the Ontario fields produced 7,244,000,000 feet of natural gas, compared with 7,419,000,000 feet in 1931. Crude oil production increased from 122,346 bbls. in 1931 to 130,343 bbls. in 1932, partly due to the new wells developed late in 1932 in the Dawn Field, but largely the result of the renovation and more efficient handling of some of the producing properties of the Petrolia-Enniskillen and Oil Springs Fields. In several instances Canadian drillers returned from foreign fields have taken over old oil farms and improved production methods, with very satisfactory results.

Chemical treatment of old wells in the Petrolia Field is being tried. Fairly good results were secured in one or two wells, but others did not respond satisfactorily. Work is being continued and it is thought that reconditioning of the wells, substitution of rubber for hemp packers and some changes in the treatment will overcome the difficulties. While these old shallow fields have produced enormous quantities of oil since they were first opened, experts have estimated that the major portion of the oil is still in the very retentive shallow formations and cannot be recovered by ordinary pumping methods. Oil mining was at one time mooted, the producing formations being only about 550 feet below the surface; but so far mining operations have not been tried out.

Ontario Drilling

In Essex County, Ontario, Bon Jasperson of Kingsville and Union Gas Co. of Chatham, are reported preparing to drill a joint test in Maidstone Township, about 1½ miles west of a previous test drilled by Mr. Jasperson near Puce which encountered encouraging shows of oil and gas in a horizon approximating the Tilbury sand.

In Kent County, Glenwood Syndicate's No. 2, NW S half Lot 10, Concession 12, Tilbury East Township, is reported drilling below 850 feet after running casing.

In Dover Township, Raleigh Development Syndicate's No. 1, Stevens farm Lot 2, Front Concession, is rigging up for a deep test of the Trenton limestone.

In Huron and Bruce Counties, Acme Gas & Oil Co. of Toronto is reported surrendering leases.

Resumption of Activity in Central West Fields; Five Completions in Central Ohio Area

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, May 1.—Conditions throughout the Central West show a change and indications are for more activity as weather conditions improve. In the old Lima Field of northwestern Ohio there is a nice pickup in completions. A number of old wells are being abandoned and the casing and tubing are being utilized in the drilling of new wells, but much bad pipe is found in some of the wells drilled years ago, and new pipe is really the pipe to use with safety.

In Allen Township, Hancock County, the Ohio Oil Co. abandoned No. 9 on the Ephraim Trout heirs "A" farm, in Section 14, and No. 2 on the S. R. Huntington farm, and No. 3 on the Edward George farm, both in Section 24, same township.

In Wood County, Portage Township, J. P. Gunder and others abandoned Nos. 9 and 10 on the Dave Gunder farm. Ohio Oil Co. abandoned No. 4 on the Gust Barts farm, Section 31, Bloom Township, also No. 2 on the Solar Refining Co. farm in same section. In Henry Township, Ohio pulled out No. 29 on the Vincent H. Corns farm, Section 22, Henry Township, same county. Wilber P. Hoobler and others are starting No. 6 on the Mary Reitzel farm, Section 23, Perrysburg Township, same county.

In Auglaize County, Adrian Tester Oil Co.'s No. 4 on the Harry J. Hanold farm, Section 34, Moulton Township, had an initial of 5 bbls. from the Trenton lime formation.

Mercer County

In Mercer County, Grace & Landford's test on the William Emans farm, Section 4, Union Township, produced 8 bbls. initial. Ohio Electric Power Co. has a rig on the J. H. Lange farm, Section 26, Butler Township, same county.

In Sandusky County, Ohio Oil Co. abandoned Nos. 6 and 16 on the J. Yeastings No. 2 farm, in Scott Township. Ackerman and others' No. 1 on the Barly Waggoner farm, Section 31, Sandusky Township, is still shut down at 1,200 feet.

In the Tiffin Field, in Seneca County, in Liberty Township, M. E. Kiser has a light gas well in No. 3 on the L. E. Koerpner farm, Section 34. D. Lyons and others have a light gas well in No. 2 on the D. F. Watson farm, Section 1, Hopewell Township, at a depth of 1,523 feet. It also showed 1 bbl. of oil. Sandusky Gas Co. has a gas well in No. 1 on the Anna Shoull farm, Section 10, same township.

In Wyandot County some new work is starting, brought about by the bringing in of a 75-bbl. well by McPheron and others on the Carl Smith farm, in Section 35, Crane Township. A location has been made for No. 2 on the Smith farm, Section 33, same township. Upper Sandusky Oil & Gas Co. made a location on the Mary Loverick farm, Section 28, same township, and Donaldson and others set a stake on the Minor Koechler farm, Section 20, same township. Harpster and others' test on the L. G. Beis farm, Section 11, Crawford Township, same county, is a light gas well at a depth of 1,402 feet. O'Neal and others have a fishing job at 950 feet on the Arthur J. Ruehl farm, Section 1, Crawford Township, same county.

In Marion County, Lewis-Ennis Oil & Gas Co.'s test on the E. H. Brown farm, in Sections 20-30, Grand River Township, is reported drilling at 2,225 feet.

CENTRAL OHIO

Five completions were reported from the Central Ohio Field, with one producer of oil, one dry hole and three gas wells. The oil well was McClay Brothers' No. 2 on the George Boyd farm, Section 3, Perry Township, Licking County, where the Clinton lime formation was topped at 2,914 feet and the oil found at 38 feet in the lime, or at a total depth of 2,952 feet. It is reported good for 30 bbls. initial and may be given a shot.

In Lorain County, McMillan and others brought in a small gas well on the Belle Smith farm, Lot 24, Ridgeville Township, at 367 feet.

In Coshocton County, Ashcraft Brothers drilled a dry hole on the Ashcraft heirs farm, Section 15, Pike Township, at from 611 to 620 feet. Palmer & Deisinger are drilling on the Sol Haun farm, Lot 8, Clark Township, same county. Preston Oil Co. has a good oil showing in its No. 2-1521 on the Ward Little farm, Section 27, Perry Township, same county, and will be given a shot.

In Logan County, Simms Oil & Gas Co.'s test on the Ward Sweetland farm, in Lot 9,974, Rush Creek Township, is a light gas well from 1,436-71 feet.

In Stark County, Jackson Township, Brendel Producing Co. brought in a nice gas well in No. 10 on the Lake Cable Co farm, Section 22, at total depth of 4,387 feet. Plain Township, same county, is getting a heavy play, although no new completions were reported. In Plain Township, East Ohio Gas Co. is drilling on the Otto Frank and others, Section 20. Same company is drilling No. 1 on the H. G. McDowell heirs farm, Section 15, and has made a location on the T. & H. McDowell farm in Section 16. Brendel Producing Co. is drilling No. 1 on the J. S. Unger farm in Section 17, also No. 1 on the Isaac and Elmer Markley farm, Section 9, and has a rig on the M. M. Bivenour farm, same section, as well as a rig for No. 1 on the Minnie A. Sheets farm, Section 8, same township.

O. K. Oil & Gas Co. is drilling No. 2 on the John T. Murphy farm, Sections 35-36, Union Township, Belmont County.

White and others are drilling on the Sarah Lorenz farm, Section 17, Plains County. Many wells are shut down.

INDIANA

Only one completion was reported from Indiana, Harry N. Bell and others' No. 2 on the Charles R. Lucas farm, NE Section 18, Washington Township, Pike County, which was dry. The well was in the southwest corner of the lease and was drilled to 1,090 feet. H. A. Moore and others are still shut down on the Earl E. Reed farm, NW Section 1, same township. H. Risher and others are drilling No. 2 on the Henry Miley farm, NE of Section 18, same township, and Charles C. Taliaferro is drilling on the Charles E. Schaffer farm, SE of Section 26, same township.

ILLINOIS

W. C. McBride, Inc., drilled a test in the southwest corner of the H. R. and E. J. McClaflan farm, SW of Section 35, Montgomery Township, Crawford County, which was dry at 1,070 feet.

In Lawrence County, International Oil & Gas Co. abandoned its No. 6 on the M. McCrosk heirs farm, SE SW Section 25, Dennison Township. Big Four Oil & Gas Co. is drilling No. 2 on the F. J. Piper farm, Section 20, Bridgeport Township, same county.

KENTUCKY

Only one well was reported from Kentucky, Hupp & Duff's test in the northwest corner of the Henry Sauer farm, 2 miles south of Cane Run, in Ohio County, which produced an initial of 30 bbls. from a total depth of 692 feet and is connected to the Illinois Pipe Line Co.

Two Fair Producers in Southeast Ohio Field; Deepest Test Now Stands as Dry Hole

By STAFF CORRESPONDENT

PITTSBURGH, Pa., May 1.—Allowable production for the month of May was increased 5 per cent in two of the districts of the lower eastern fields in a recent notice by the South Penn Oil Co. to operators with whom contracts exist for the purchase of all oil as run. The districts benefited are Southwest Pennsylvania, oil run into the lines of the South West Pennsylvania Pipe Lines, and West Virginia where oil is run into the lines of the Eureka Pipe Line Co.

In explaining this increase, which is not to be construed as an increase in consumption, the South Penn Oil Co. stated:

"In order to allow the South West Pennsylvania Pipe Lines to acquire sufficient stock to facilitate the movement of Pennsylvania Grade crude oil gathered into their pipe line system, the South Penn Oil Co. is willing to increase the proportional allowable to 75 per cent.

"Our outlet for the month of May is not increased, but for the above reason, the South Penn Oil Co. stands willing to assist the producer and the South West Pennsylvania Pipe Lines." A similar notice was mailed to those connected with the Eureka Pipe Line Co. in West Virginia.

This company's notice to producers in the other districts left the allowable unchanged at 75 per cent, the allowable in Southeast Ohio, the Buckeye Pipe Line Co., having been previously raised to permit the accumulation of stock. The statement read: "Our company has notice that its outlet for Bradford district crude oil in the National Transit Co. lines, and Pennsylvania Grade crude oil in the Buckeye Pipe Line Co. lines, throughout the month of May, 1933, will be the same as through the month of April. We must again ask all our customers to continue their curtailment of production throughout May in keeping with the curtailment asked for the month of April."

Thus allowable production in the eastern fields at the present time is 75 per cent in all districts except those zones in which refiners contract direct producers which are self-regulated.

Except in the Bradford and Allegany districts, pipe lines have been handicapped in making prompt deliveries by the lack of sufficient crude stocks which have gradually been reduced by dwindling production. Current runs make up current deliveries. Production at present is less than the allowable due to few new producers being completed and the normal decline in old wells. The present price of crude in the East is no incentive to drill and it is very doubtful if restrictions were removed that these fields could regain their former production totals.

Operations

A total of eight completions and one dry hole were recorded in the eastern fields during the week. The completions consisted of four gas wells, none large, and four producers with a total of 69 bbls. a day initial. Two of the producers were fair tests and in Southeast Ohio.

SOUTHEAST OHIO

Two producers and two gas wells were completed in Southeast Ohio. The larger producer was a test in Section 3, Perry Township, Licking County, on the George Boyd farm and completed by McClay Brothers. It was drilled in the Clinton sand at a depth of 2,970 feet and produced 40 bbls. the first day after shot.

In Coshocton County, Preston Oil Co. drilled a second test on the Ward A. Little farm, Section 17, Perry Township, and completed it in the Clinton sand at a depth of 3,123 feet. At that depth, there was 800 feet of fluid in the hole and the well shot. It was estimated that it would be good for 20 o 25 bbls. a day as a pumper.

In Monroe County there were two completions. In Section 18, Franklin Township, E. G. Cunningham and others completed a test on the Joseph Reed farm in the Second Salt sand at a depth of 870 feet. It is rated good for 350,000 feet a day. In Section 9 of the same township, the Southerland Oil & Gas Co. completed a test on the W. A. Quigley farm in the same formation at a depth of 890 feet. It is a gas well showing for about 180,000 feet a day.

The deep test of Benedum & Trees on the E. E. Knowlton farm in Section 10, Independence Township, Washington County, is shut down at a depth of 7,889 feet, the Medina sand, and it is not unlikely that this is the final depth. The top of the Clinton sand was 7,658 feet and the bottom 7,767 feet. The Medina was just below the Clinton and both having proved void of production, the deepest test in Ohio now stands as a dry hole. It is doubtful if the other tests

drilled around the Harris test on the Joseph Crago farm, which was a fair producer in the Warren sand at around 3,000 feet and which have been waiting on developments, will be drilled any deeper. The Crago test was the only producer in that formation in Newport, Grandview, and Independence Townships, an offset of 200 feet even proving dry.

Drilling in Southeast Ohio is still at a low figure, showing little improvement in tests drilling to the Niagara lime and Clinton sands, the most productive formations.

WEST VIRGINIA

Two small producers, one gas well, and a dry hole constituted the work completed in West Virginia. In Calhoun County the test of Poling and Mollahan on the A. Simons farm in Sherman district found the Injun sand dry at 2,104 feet. The Maxon sand was tested for oil and found to be good for about 3 bbls. a day. In Hancock County, R. J. Braden Co. completed No. 49 on the C. E. Brenneman farm in Grant district in the Cow Run sand and has a pumper starting off at about 1 bbl. a day.

In DeKalb district, Gilmer County, Philadelphia Oil Co. shot its second test on the Jacob Crites farm and helped the production, increasing it from 2 to 4 bbls. a day.

In Pleasants County, Dinsmore & Co. drilled their No. 6 on the John Boley farm in Washington district from the Cow Run sand down through the Injun sand. The Injun proved dry.

In Sheridan district, Calhoun County, W. J. and O. L. Yoke completed a test on the A. T. Yoke farm in the Injun sand and have a gas well estimated good for 300,000 feet a day.

Drilling in West Virginia

The test of the Lucky Strike Oil Co. on the Edgar Hinton farm in Clay district, Ritchie County, is holding up at about 80 bbls. a day natural, which lends interest to that section since its completion the latter part of February. Frank Finley and others have spudded in and started drilling a test on the Bohem and Neeley lease. The depth is 350 feet, and the Injun or producing formation is around 1,925 feet. Both Lucas and Mahaney, and Hinton Farm Oil Co. have rigs standing for further tests in that section, the former on the Catherine Ball farm, and the latter on the L. E. Robinson farm, adjoining the test.

In Wood County, Warren Reed and others are down 1,050 feet on the C. T. Locker farm in Williams district and drilling. In Union district, Charles Smith is drilling No. 5 on the Blain Casteel farm and has reached 635 feet. In Wirt County, C. T. Smith has resumed drilling on the George Webber farm in Clay district and is down 350 feet.

In Calhoun County, Ewart Starcher and others have made a location on the C. C. Starcher farm in Center district. In this district, W. A. Bickerstaff is down 1,748 feet on the Edward Gainer farm. In Sherman district, C. B. Lewis and others are rigging up on the W. T. Kelly farm. F. F. McIntosh is on top of the Injun sand on the Charles and John Davis farm in Lee district, having reached 2,100 feet. In Roane County, George Smith and others are building a rig for a second test on the C. A. Kendall farm in Spencer district.

In Cabell County, Manufacturers Light & Heat Co. is building a road for a test on the W. H. Holton farm in McComas district. D. R. Campbell and others are on top the Brown shale in their second test on the Gilbert Holton farm in the same district.

In Boone County, the test of the Pure Oil Co. on the Pocatello C. & C. Co. tract in Crook district has reached 1,584 feet. In Sherman district, its test on the La-Follette, Robson and Prichard lease C. is drilling at 713 feet. In Scott district, C. P. Jones and others have reached 1,975 feet on the R. W. McKinney farm.

In Marion County, Snodgrass and others started to drill deeper their No. 1 on the Absalom Holbert farm in Mannington district and lost the tools at 2,895 feet. They are now drilling by the tools.

SOUTHWEST PENNSYLVANIA

One well was completed in Southwest Pennsylvania. In Amwell Township, Washington County, the test of the Wise Oil & Gas Co. on the M. Roach farm was completed as a gas well in the 30-foot sand and is good for 250,000 feet a day. The well was drilled to 2,982 feet. The Fifth, or productive, formation in this new pool was found dry, although a good sand was found between 2,923 and 2,958 feet. The sand was tight and oily and it was considered better to complete the test as a gas well than to shoot it for a possibly small pumper. This test is about three-quarters of a mile northwest of the Hazlett test.

Drilling in that pool is the test of Hallam and Lewis on the John Roach farm which is down about 2,000 feet. Some gas was found in the Salt sand. The Carnegie Natural Gas Co. is getting ready to start spudding its test on the Mrs. Meunzer farm. Other sections of Southwest Pennsylvania are inactive at present.

Wildcats

In Wise County, Virginia, the test of Benedum & Trees on the I. Kaufman farm has resumed drilling after considerable trouble with a crooked hole. The depth is now about 2,850 feet. The other tests in Virginia remain shut down.

In lower West Virginia, the same operators' test on the Pocohontas Coal Co. tract in Big Creek district, McDowell County, is on top of the Oriskany at 6,484 feet and may be drilled in without casing. The casing is on hand for the job.

Oklahoma Fields

(Continued from Page 49)

bbls. in four hours from 6,379-6,509 feet. Inland Development Co.'s No. 1 Wisconsin, C NW SE Section 22-11-3w, made 1,912 bbls. in four hours from 6,472-6,584 feet.

Okmulgee County

F. Miller's No. 1 Byrd, NE cor. SE Section 25-12-13, is a rig. Hazlett and others' No. 2 Dunbar, NE cor. NW NW NW Section 31-14-14, is a machine.

Okfuskee County

Prince and Anderson's No. 1 Grayson, NW cor. SW SW SE Section 23-11-11, is a machine.

Osage County

R. Branstetter's No. 1, SW cor. NE SW SE Section 28-22-11, is a machine. Silurian Oil Co. and others' No. 36, SW cor. NE NE Section 18-23-12, an old well drilling deeper, was cleaning out at 1,693 feet.

Pontotoc County

Deaner Oil & Gas Co.'s No. 1 Layne, SW cor. SE NW Section 30-5-5, made 100 bbls. from 2,567-78 feet. Benedum & Trees' No. 2 Norris, NW cor. SW Section 30-5-5, made 140 bbls. from 2,510-60 feet.

Pawnee County

H. D. Hambley's No. 2 Mills (twin), SW cor. NW SE Section 20-20-10, was dry and abandoned at 2,161 feet.

Seminole County

Spears Drilling Co.'s No. 1 Hart, NW cor. NE SW Section 18-8-7, is a rig. Barnsdall Oil Co.'s No. 1 Deere, SW cor. NW NW Section 36-11-6, was dry and abandoned at 4,393 feet. Harris-Hays' No. 1 Harjo, NE cor. SE NW Section 11-6-6, made 10 bbls. from 2,791-2,835 feet, total depth 2,910 feet.

Wagoner County

Lambert and others' No. 1 Lowery, C E half SE SW Section 24-16-14, is a rig.

DEATH OF H. W. SMITH

Harold Whitmore Smith, until June, 1932, generating apparatus manager of the Westinghouse Electric & Manufacturing Co., died in Pittsburgh, Pa., recently after a brief illness.

Kansas Fields

(Continued from Page 50)

Hollow and others' No. 2 Schmidt, NW cor. NE NW Section 17-22-3w, was drilling at 1,800 feet. Derby Oil Co.'s No. 2 Schmidt, NE cor. NW NW Section 17-22-3w, was drilling at 2,000 feet. Same company's No. 1 Schmidt, SE cor. SW NW Section 17-22-3w, made 2,733 bbls. of oil from 3,442-61 feet. Shell Petroleum Corp. and others' No. 1 Voth, SW cor. NW Section 4-22-3w, made 1,854 bbls. from 3,499-3,509 feet.

McPherson County

Harris & Haun's No. 1 Sellers, C SW NW Section 19-19-1w, is a location. Rolind Oil & Gas Co.'s No. 1 Thomas, NE cor. SW Section 26-19-2w, was drilling at 400 feet. Youker and others' No. 4 Gratton, NW cor. SW Section 24-19-2w, was spudding. Roth & Farout's No. 1 Swanson, NE cor. SW NE Section 13-19-3w, was drilling at 300 feet. Lario Oil & Gas Co.'s No. 3 Miller, NE cor. SW SE Section 24-19-2w, was drilling at 3,100 feet. Lario Oil & Gas Co.'s No. 1 Wilke, C SE NE Section 34-20-4w, was dry and abandoned at 3,880 feet. Lario Oil & Gas Co.'s No. 1 Koehn, SW cor. NW NW Section 34-21-3w, made 1,592 bbls. from 3,450-52 feet. The Texas Company's No. 3 Nachtigal, NE cor. SW SW Section 21-21-3w, was dry and abandoned at 3,438 feet.

Rice County

Vickers Petroleum Co.'s No. 1 Specht, SE cor. NE Section 20-20-10w, is a location. R. Ramsey and others' No. 1 Robinson, SW cor. NW Section 32-19-9w, is a rig. Same operators' No. 1 Ira, SW cor. NW NW Section 32-19-9w, was spudding. Robertson and others' No. 1 Hallinger, SW cor. NW Section 26-18-10w, was drilling at 500 feet. Shawver and others' No. 1 Kelly, SW cor. NW Section 22-20-10w, was dry and abandoned at 3,382 feet.

Reno County

Olsen Oil Co. and others' No. 1 Sabin, C SE SE Section 13-23-4w, is a rig. Same operators' No. 1 Hutchinson Lumber Co., C NE NE Section 24-23-4w, is a rig. Same operators' No. 1 Adkins, SE cor. SW Section 35-23-4w, made 510 bbls. from 3,275-3,374 feet.

Sedgwick County

Shell Petroleum Corp.'s No. 6 Liggrisse, NE cor. SE NE Section 15-26-2, made 2,155 bbls. from 3,163-67 feet.

Woodson County

Ward McGinnis' No. 1 Ross, NW cor. SE Section 32-25-14, is a wildcat location.

Oil and Gas Conference at Pennsylvania State

STATE COLLEGE, Pa., May 1.—Varying and interesting topics covering oil and gas problems will be presented at the third annual petroleum and natural gas conference to be held at State College on May 5 and 6.

The program follows:

Friday afternoon, May 5, at 1:30, in Room 315, Mineral Industries Building:

"Research Developments in the Refining of Pennsylvania Petroleum," by M. R. Fenske, assistant professor of chemical engineering at Pennsylvania State College.

"Producing Formation and Production Practice in the Titusville-Oil City District," by Norman E. Maxwell, production engineer of the Crew-Levick Co., Titusville, Pa.

"Technologic Advances in Natural Gas and Refinery Gas," by George A. Burrell and Nelson C. Turner of the Burrell-Mase Engineering Co., Pittsburgh, Pa.

Saturday morning, May 6, at 9:30 o'clock, in Room 325, of the Mineral Industries Building:

"Some Physical Characteristics of Oil Sand," by G. H. Fancher and J. A. Lewis, of the Mineral Industries Experiment Station of Pennsylvania State College.

"The Effect of Paraflow on Wax Crystallization and Pourpoint of Lubricating Oils," by Davis and Zimmer, of the Standard Oil Developing Co.

"Economics of the Natural Gas Industry," by S. W. Meals, president of the Carnegie Natural Gas Co., Pittsburgh.

TEAGLE AND PEW TO SPEAK

Walter C. Teagle, president of the Standard Oil Co. (New Jersey), will preside over a natural resources round table meeting as part of the annual sessions of the U. S. Chamber of Commerce at Washington in the Mayflower Hotel, Wednesday, May 3. J. Howard Pew, of Philadelphia, president of the Sun Oil Co., will present a paper on "The Problems of the Oil Industry."

OIL BOARD ABOLISHED

WASHINGTON, D. C., May 1.—The Federal Oil Conservation Board, created during the Coolidge administration, has been officially abolished by the Roosevelt administration, and the skeleton organization, which had been carrying on for several months, has been dismissed.

Gulf Coast Fields and Wildcats

(Continued from Page 55)

Yount Lee Oil Co.'s No. 20 Chambers County, Wm. Bloodgood Sur., 150 ft. N of No. 2 and 50 ft. E of W line ..... Drlg. shale 6,703 ft.

Yount Lee Oil Co.'s No. 22 Chambers County, Wm. Bloodgood Sur., 200 ft. from W line, 262½ ft. from N line of lease ..... Rig.

RABBS RIDGE—FORT BEND COUNTY

Gulf Prod. Co.'s No. 3-A Mary Gubbels, Samuel Kennedy Sur., 1,457 ft. S along E line from NE cor. and 422 ft. W at right angles ..... Sandy shale 5,277 ft; cmtd. csg.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 13-A F. I. Booth, Samuel Kennedy Sur., 125 ft. E along S line of Mary Gubbels "A" lease and 485 ft. S at right angles ..... Comp. 50 bbls. per hr.; ⅝-in. choke, 5,300 ft.

Humble O. & R. Co.'s No. 8 Mary Gubbels, Samuel Kennedy Sur., 1,460 ft. from S line, 532 ft. from E line of lease ..... Comp. 57 bbls. per hr.; ⅝-in. choke, 5,325 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 11 H. P. Lockwood, J. Rabb Sur., 9,080 ft. from W line, 311 ft. from N line of lease ..... Comp. 43 bbls. per hr.; ⅝-in. choke, 5,401 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 12 H. P. Lockwood, John Rabb Sur., 7,085 ft. from W line, 300 ft. from S line of lease ..... Comp. 52 bbls. per hr.; ⅝-in. choke, 5,300 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 14-A Lockwood & Sharp, J. Rabb Sur., 4,173 ft. from W line, 536 ft. from S line of lease ..... Comp. 60 bbls. per hr.; ⅝-in. choke, 5,300 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 17-A Lockwood & Sharp, John R. Rabb Sur., 833 ft. E of No. 16 ..... Comp. 15 bbls. per hr.; ⅝-in. choke, 5,300 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 18-A Lockwood & Sharp, J. Rabb Sur., 3,114 ft. E along N line of Tract 3 from NW cor. and 1,049 ft. S at right angles ..... Spudded.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 14-B Lockwood & Sharp, J. Rabb Sur., 500 ft. from E line and 302 ft. from S line ..... Drlg. sand 1,285 ft.

Humble O. & R. Co. and Gulf Prod. Co.'s No. 7 A. E. Meyer, J. Rabb Sur., 7,550 ft. E along S line of 276-ac. tract and 426 ft. N at right angles ..... Spudded.

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 3 Brousseard, M. Dunman Sur., 150 ft. E of center of W line of tract ..... Drlg. shale 6,120 ft.

Yount Lee Oil Co.'s No. 34 Cade, N. Fitzsimmons Sur., 850 ft. S of No. 33 ..... Old T.D. 5,876 ft; P.B. and milled out 5,602 ft.; drlg. shale 5,-825 ft.

Yount Lee Oil Co.'s No. 35 Cade, N. Fitzsimmons Sur., 600 ft. S of No. 34 ..... Drlg. shale and lime 4,310 ft.

Yount Lee Oil Co.'s No 15 Smith, Martin Dunman Sur., 1,623 ft. from NW line, 315 ft. from SW line ..... Drlg. shale and lime 4,375 ft.

Yount Lee Oil Co.'s No. 16 Smith, Martin Dunman Sur., 300 ft. SE of No. 12 and parallel to land line ..... Drlg. sand and shale 3,925 ft.

ARIOLA—HARDIN COUNTY

Republic Prod. Co.'s No. 3 Ariola fee, Ariola Sur., 400 ft. S of No. 1 ..... Drlg. 4,300 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 1 Hooks, 95 ft. S, 150 ft. W of NE cor. of Strip 13, Donoghue Sur. ..... Sandy shale showing oil 4,424 ft; reaming to set csg.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 96 Jordit, Jordit Sur., 150 ft. N, 150 ft. E of No. 95 ..... Spudded.

HOCKLEY—HARRIS COUNTY

John Deering's No. 3 Warren, T. A. Scully Sur., 200 ft. S, 100 ft. W of No. 2 ..... Rig.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 14-A Settegast, J. Kopman Sur.. Drlg. shale and shell 5,318 ft.

Rock Drlg. Co.'s No. 1 Herman Est., J. Kopman Sur. No. 44, 788 ft. from E line, 88 ft. from N line of tract ..... Set screen 4,634 ft; swabbing.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 7 Davis (W.O.), David L. Kokernut Sur. ..... Drlg. shale 6,400 ft.

Cranfill-Reynolds Co.'s No. 8 Esperson (W.O.), C. W. Fisher Sur. ..... Old T.D. 3,293 ft; sidetracked 3,-176-82 ft; drill pipe stuck.

Cranfill-Reynolds Co.'s No. 10 Moore's Bluff, M. Duncan Sur., 1,500 ft. from E line, 2,100 ft. from N line of 632-ac. tract ..... T.D. 7,077 ft; S.D.; W.O.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 1 Crowe & Jacobs, H.&T.C. Sur., Sec. 21, 900 ft. from W line, 1,700 ft. from S line of N 330 ac. of section ..... Drlg. shale and boulders 4,536 ft.

HULL—LIBERTY COUNTY

Aberoil Oil Co.'s No. 1 Barrow, Jesse Devore Sur., 64 ft. from N line, 700 ft. from E line of 10-ac. tract. Swabbing 6,452 ft.

Eclipse Oil Co.'s No. 1 Gordon, Jesse Devore Sur., 50 ft. S, 50 ft. W of NE cor. Empire 13 acres ..... No report.

Edwards Drlg. Co.'s No. 1 Noble & Lynd, Jesse Devore Sur., 304 ft. from W line, 137 ft. from S line of 5-ac. lease ..... No report.

Jack Modisette's No. 1 Taylor, Jesse Devore Sur. ..... S.D. 1,357 ft.

CONROE—MONTGOMERY COUNTY

Amerada Pet. Corp.'s No. 1 Hall-Crump, C. A. West Sur., 340 ft. from S line in center of 20-ac. lease E and W ..... Drlg. shale 4,110 ft.

A. & P. Prod. Co.'s No. 2 Keystone Mills, A. Steele Sur., 466 ft. from S line of 40-ac. lease in center E and W ..... Sand 5,110 ft; cmtd. csg.

Butler & Herne's No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 350 ft. from W line, 224 ft. from S line of lease ..... Comp. 65 bbls. per hr.; ½-in. choke, 5,126 ft.

Farlyn Oil Co. and Feltex Oil Co.'s No. 1 Thompson, C. A. West Sur., center of 10-ac. tract ..... Drlg. shale 1,268 ft.

Feltex Oil Co.'s No. 2 Kirby-Bertrand, Wagers Sur., 1,367 ft. S of No. 1, in center of tract E and W ..... Rig.

Feltex Oil Co.-Kirby Pet. Co.'s No. 5 Felson, G. W. Wagers Sur., 466 ft. from S line in center of lease E and W ..... Drlg. shale 4,825 ft.

Giesecke & Craft's No. 1 Granger, T.&N.O. Sur. No. 14, 467 ft. out of NW cor. of 77-ac. lease ..... Derrick.

Gulf Coast Drlg. & Prod. Co.'s No. 1 Bertrand, G. W. Wagers Sur., 466 ft. out of NE cor. of lease ..... Comp. 45 bbls. per hr. 5,095 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 1 E. E. Hensley, A. Steele Sur., 466 ft. from W line, 466 ft. from S line of 44 acres ..... Derrick.

Gulf Coast Drlg. & Prod. Co.'s No. 3-B Keystone Mills, A. Steele Sur. ..... Comp. 75 bbls. per hr.; ½-in. choke, 5,110 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 8-A Keystone Mills, A. S. James Sur., 933 ft. NE of No. 7-A and 466 ft. from NW line of lease ..... Drlg. shale 5,025 ft.

Hamill & Smith's No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 12, 341 ft. from W line in center, N and S of 10-ac. tract ..... Sand and shale 5,067 ft.

Harrison & Abercrombie's No. 2 Arthur Wiggins, T. M. Wiggins Sur., 300 ft. from W line, 466 ft. from S line of lease ..... Sand and shale 5,115 ft.

Harrison & Abercrombie's No. 3 Ben Wiggins, T. M. Wiggins Sur., 1,431 ft. from N line of survey, 260 ft. from E line of lease ..... No report.

Harrison & Abercrombie's No. 4 John Massey, John Massey Sur., 330 ft. from N line, 1,369 ft. from W line of Sur. ..... Drlg. shale 3,895 ft.

Hi-Grade Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 360 ft. from N line, 207 ft. from W line of lease ..... Drlg. shale 3,515 ft.

L. L. Horne Oil Co.'s No. 1 South Tex. Dev. Co., T.&N.O. Sur. No. 5 ..... Comp. 73 bbls. per hr.; ½-in. choke, 5,095 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 2 Dobbins, Ransom House Sur., 425 ft. from N line, 1,508 ft. from W line ..... Drlg. shale 4,425 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Dobbins, Ransom House Sur., 425 ft. from N line, 466 ft. from E line ..... Drlg. shale 3,920 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 3 Moore, Lemuel Smith Sur., 250 ft. from N line, 456 ft. from W line of the 100-ac. lease ..... Derrick.

Humble O. & R. Co.'s No. 2 Pearl Collins, L. Smith Sur., 300 ft. from S line, 525 ft. from E line of lease ..... Spudded.

Humble O. & R. Co.'s No. 4 B. E. Jones, Lemuel Smith Sur., 250 ft. from S line, 1,526 ft. from E line ..... Drlg. shale 4,609 ft.

Humble O. & R. Co.'s No. 1 E. B. Hill, C. A. West Sur., 660 ft. S of No. 1 Alenius Chilsom, and 15 ft. from W line of lease (Lots 62 and 77) ..... Drlg. sand.

Humble O. & R. Co.'s No. 3 T. B. McComb, Lemuel Smith Sur., 466 ft. out of SW cor. ..... Cmtd. csg. 5,007 ft.

Humble O. & R. Co.'s No. 35 Madeley, Ransom House Sur., 425 ft. from S line, 266 ft. from W line ..... Drlg. shale 3,968 ft.

Humble O. & R. Co.'s No. 30 Moore, Lemuel Smith Sur., 965 ft. NE of No. 14 ..... Comp. 90 bbls. per hr.; ½-in. choke, 5,126 ft.

Humble O. & R. Co.'s No. 33 Moore, Lemuel Smith Sur., 660 ft. from NW line, 466 ft. from NE line of lease.. Comp. 53 bbls. per hr.; ½-in. choke, 5,129 ft.

Humble O. & R. Co.'s No. 2 E. Moorehead, 466 ft. out of most Southerly NW cor. of L. A. Lang Sur. .... Drlg. shale 4,712 ft.

Humble O. & R. Co.'s No. 5 Plaeffliu, W. M. Real Sur., 664 ft. S of No. 4 ..... Drlg. shale 2,951 ft.

Humble O. & R. Co.'s No. 6 L. B. Rooker, M. W. Real Sur., 400 ft. N of No. 2 ..... Comp. 72 bbls. per hr.; ½-in. choke, 5,135 ft.

Humble O. & R. Co.'s No. 6 L. B. Rooker, 1,421 ft. from N line, 285 ft. from W line of J. M. Real Sur... Comp. 75 bbls. per hr.; ½-in. choke, 5,160 ft.

Humble O. & R. Co.'s No. 32 South Tex. Dev. Co., 1,-300 ft. from S line, 4,800 ft. from E line of Theo. Slade Sur. ..... Comp. 79 bbls. per hr.; ½-in. choke, 5,163 ft.

Humble O. & R. Co.'s No. 46 South Tex. Dev. Co., Theo. Slade Sur., 760 ft. NE of No. 15 ..... Drlg. shale 3,412 ft.

Humble O. & R. Co.'s No. 1 Wiggins & Athey, L. Smith Sur. ..... Drlg. shale 4,531 ft.

Mortex Oil Co.'s No. 1 Springfield, J. E. Springfield Sur., 467 ft. from N line, 467 ft. from W line of 100-ac. lease ..... Drlg. shale 4,825 ft.

Navarro Oil Co.'s No. 1 Wiggins hrs., L. A. Lang Sur., 168 ft. from S line, 410 ft. from E line of lease .... Coring sand and shale 5,080 ft.

North Star Oil Co.'s No. 1 Granger, 1,400 ft. from E line, 2,600 ft. from N line of T.&N.O. Sur. No. 14.. Drlg. shale 4,920 ft.

Republic Prod. Co.'s No. 2 B. D. Griffin, Wilson Strickland Sur., 194 ft. from E line, 1,972 ft. from N line.. Drlg. shale 1,685 ft.

South Gulf Oil Corp.'s No. 3 Granger, T.&N.O. Sur. No. 14, 933 ft. E of No. 1 and 467 ft. from S line.... Drlg. shale 5,025 ft.

Southern Liberty Oil Co.'s No. 1 Allen, L. Smith Sur., 466 ft. from N line, 275 ft. from W line ..... Drlg. shale 1,210 ft.

Southern Liberty Oil Co.'s No. 1-B South Tex. Dev. Co., 330 ft. from N line, 2,600 ft. from E line of T.&N.O. Sur. No. 5 ..... Drlg. sand 3,845 ft.

Standard Oil Co. of Kans.' No. 2-A Madeley, Ransom House Sur., 1,374 ft. from N line, 695 ft. from E line of survey ..... Comp. 100 bbls. per hr.; ½-in. choke, 5,100 ft.

Strake Pet., Inc.'s No. 1 Geo. Hamman, C. B. Stewart Sur., 467 ft. out of SW cor. ..... Drlg. shale 1,245 ft.

Sun Oil Co.'s No. 1 Jones, Sitton Sur., 466 ft. out of NW cor. of tract ..... Sand 5,095 ft.

Sun Oil Co.'s No. 2 Foster, John Bricker Sur., 933 ft. SW of No. 1 ..... Sand 5,115 ft.

Sun Oil Co.'s No. 3 Foster, J. Bricker Sur., 933 ft. W of No. 2 and 466 ft. S of N line ..... Drlg. shale 1,126 ft.

Sun Oil Co.'s No. 4 Foster, John Bricker Sur., 466 ft. out of SW cor. ..... Drlg. shale 935 ft.

Sun Oil Co.'s No. 3 South Tex. Dev. Co., T.&N.O. Sur. No. 5, 933 ft. N of No. 3 in center of lease E and W.. Rig.

Sun Oil Co.'s No. 4 South Tex. Dev. Co., T.&N.O. Sur. No. 4, 933 ft. N of No. 3 in center of lease E and W.. Rig.

Sun Oil Co.'s No. 2 Jones, Wilson Strickland Sur., 466 ft. from N and E lines of lease ..... Sand and shale 5,100 ft.

Sun Oil Co.'s No. 2 Stewart, J. M. Real Sur., 1,350 ft. from E line, 1,400 ft. from S line of lease ..... Comp. 75 bbls. per hr.; ½-in. choke, 5,135 ft.

Texas Unity Oil Co.'s No. 1 Keystone Mills, L. Smith Sur., 466 ft. from S and E lines of lease ..... Drlg. shale 4,995 ft.

The Texas Co.'s No. 5 Dudley, C. B. Stewart Sur., 1,-185 ft. E, 660 ft. S out of NW cor. of lease ..... Comp. 52 bbls. per hr.; ½-in. choke, 5,119 ft.

The Texas Co.'s No. 12 Moody, Ransom House Sur., 933 ft. S, 15 deg. E of No. 8 ..... Comp. 45 bbls. per hr.; ½-in. choke, 5,111 ft.

The Texas Co.'s No. 23 Moody, Ransom House Sur., 350 ft. from most westerly west cor. and 466 ft. from most southerly N line ..... Sand 5,047 ft; cmtd. 7-in. csg. 5,-005 ft.

The Texas Co.'s No. 24 Moody, Ransom House Sur., N 75 deg. E 1,400 ft. and S 15 deg. E 2,330 ft. from NW cor. of lease ..... Sand 5,092 ft; cmtd. 7-in. csg. 5,-050 ft.

The Texas Co.'s No. 25 Moody, Ransom House Sur., 1,400 ft. N 75 deg. E and 1,398 ft. S 15 deg. E of NW cor. of lease ..... Drlg. hard sand 4,879 ft.

The Texas Co.'s No. 27 Moody, Ransom House Sur., 2,632 ft. S 75 deg. W, and 2,178 ft. S 15 deg. E from NE cor. of lease ..... Derrick.

The Texas Co.'s No. 13 Rhodes, 1,450 ft. from S line, 1,300 ft. from E line of lease, W. S. Rhodes Sur. ... Sand 5,024 ft; cmtd. 7-in. csg. 4,-994 ft.

The Texas Co.'s No. 14 Rhodes, W. S. Rhodes Sur., 1,060 ft. from W line, 1,470 ft. from S line ..... T.D. 5,010 ft; standing.

Tide Water Oil Co.'s No. 6 Dean, W. C. C. Lynch, 2,-398 ft. from N line, 325 ft. from E line ..... Drlg. shale 1,627 ft.

Tide Water Oil Co.'s No. 1 Eichletz, Lemuel Smith Sur., 467 ft. from N line, 1,010 ft. from E line of lease ..... Sand 5,105 ft; cmtd. csg.

Tide Water Oil Co.'s No. 2 Granger, T.&N.O. Sur. No. 14, 1,696 ft. from N line, 338 ft. from W line ..... Derrick.

Tide Water Oil Co.'s No. 3 Krohn, S. H. Bryan Sur., 466 ft. from N line, 467 ft. from W line of tract.... Drlg. shale 4,224 ft.

Tide Water Oil Co.'s No. 5 South Tex. Dev. Co., T.&N. O. Sur. No. 5, 1,459 ft. from W line, 467 ft. from N line of lease ..... Drlg. shale 3,340 ft.

Whittle & Davis' No. 1 Wahrenberger, R. C. Hamlet Sur., 300 ft. N, 600 ft. E of center of lease ..... Spudded.

REFUGIO—REFUGIO COUNTY

United Prod. Corp.'s No. 1-A M. F. Lambert, 666 ft. from N line, 822 ft. from W line of Hews & Brown Sur. ..... T.D. 4,200 ft; cmtd. csg.

WEST COLUMBIA—BRAZORIA COUNTY

The Texas Co.'s No. 5 Abrams ..... Rig up to deepen 2,937 ft.

PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 3 Kuhn (W.O.), Mary E. Hall Sur., No. 2, 587 ft. S, 150 ft. W of NE cor. of survey..... T.D. 4,695 ft; plugged to 4,111 ft.

SOUTH LOUISIANA FIELDS

ALLEN PARISH

O'Brien Bros., Inc.'s No. 1 Long Bell, 430 ft. from W line, 330 ft. from N line of NW SW Sec. 34-4s-6w... No report.

BEAUREGARD PARISH

Herber & French's No. 1 Cochran, 400 ft. S, 850 ft. W of NE cor. Sec. 34-4s-5w ..... Drlg. 655 ft.

CAMERON PARISH

Southern Sulphur Co.'s No. 1 Gulf of Mexico, 330 ft. S, 338 ft. E of SW cor. Sec. 29-15s-10w ..... Rigging up.

CAMERON MEADOWS—CAMERON PARISH

Bertrand-Sutton Oil Co.'s No. 1 School, 500 ft. W, 20 ft. N of SE cor. Sec. 16-14s-13w ..... Drlg. sandy shale 4,378 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co.'s No. 4 Myrtle Grove, 2,350 ft. S, 150 ft. W of NE cor. NW Sec. 52-9s-11e ..... Drlg. 850 ft.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 2 Community, Sec. 31-10s-2e, 1,760 ft. S, 600 ft. W of No. 1 ..... Set 81 ft. of 7-in. screen 4,827 ft; failed to flow; rigging up to pump.

Rio Bravo Oil Co.'s No. 1 Gumbel, 4,000 ft. W, 250 ft. S of NE cor. of S. Gumbel & Co. tract, Sec. 33-10s-2e.. Sandy shale showing oil 5,824-30 ft.; cmtd. 7-in. csg. 5,765 ft.; drilled plug and set 35 ft. of 4¾-in. screen; washing.

GUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 2 Mulvey, Sec. 34-11s-1w, 1,515 ft. from N line, 1,150 ft. from E line of tract ..... Set 48 ft. of 7-in. screen 4,865 ft; flowed 16 bbls. per hr. for 4 hrs.; stopped flowing; pulling screen to deepen.

Pure Oil Co.'s No. 3 Mulvey, 660 ft. S, 2,349 ft. E of NW cor. Sec. 34-11s-1w ..... T.D. 4,278 ft; cmtd. 7-in. csg. 4,-248 ft; drilled plug.

HACKBERRY—CAMERON PARISH

Calcasieu Oil Co.'s No. 2 Hanszen, Sec. 14-12s-10w, 400 ft. W, 300 ft. S of No. 1 ..... Drlg. shale 3,582 ft.

East Hackberry Oil Co.'s No. 1 Landry, 2,957 ft. E, 154 ft. S of SW cor. Sec. 13-12s-10w, in Sec. 36..... Drlg. rock 2,175 ft.

The Texas Co.'s No. 10-B State, 1,000 ft. E, 200 ft. N of NE cor. Sec. 13-12s-10w ..... Drlg. 6,850 ft.
Union Sulphur Co.'s No. 5 Gulf Land-Humble lease, Sec. 11-12s-10w, 300 ft. N of No. 1 ..... Sand showing oil 6,250 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 1 Gillson, 330 ft. out of SE cor. NE Sec. 12-9s-7w ..... Rigging up.
Shell Pet. Corp.'s No. 4 Heyd, 2,122 ft. W, 1,310 ft. S of NE cor. Sec. 13-9s-7w ..... Rigging up.
Shell Pet. Corp.'s No. 1 Stafford, 825 ft. S, 325 ft. E of NW cor. Sec. 18-9s-6w ..... T.D. 7,021 ft; cmtd. 6⅝-in. csg. 6,825 ft; drlg. plug.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 2 Devilbiss, 1,850 ft. S, 350 ft. W of NE cor. Sec. 14-9s-4w ..... Drlg. sand 3,852 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 12 Houssierre-Latrielle, Sec. 47-9s-2w, 300 ft. SW of No. 5 and 400 ft. NE of No. 4 ..... Drlg. 1,500 ft.

LA FOURCHE PARISH

Southern Sulphur Co.'s No. 1 State-Bay Marchand, 617 ft. E, 710 ft. S of SW cor. Sec. 20, in Sec. 29-23s-23e. Rigging up.

PLAQUEMINES PARISH

The Texas Co.'s No. 8 Garden Island, 497 ft. E, 172 ft. N of SW cor. Sec. 107-23s-32e ..... Drlg. shale and sand 800 ft.
Texas Gulf Sulphur Co.'s No. 1 LaFourche Levee district, 595 ft. from N line, 75 ft. from W line of Sec. 12-13s-25e ..... No report.

PORT BARRE—ST. LANDRY PARISH

Gulf Ref. Co.'s No. 3 Wilson & Cochran, Sec. 4-6s-5e ..... Set screen 3,385 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 24 United Land Co., Sec. 14-10s-4e, 2,500 ft. E of No. 6 ..... No report.

STARKS—CALCASIEU PARISH

Gulf Ref. Co.'s No. 32 Lutcher-Moore, 1,863 ft. N, 650 ft. E of SW cor. Sec. 19-9s-12w ..... Drlg. gumbo 1,405 ft.

SWEET LAKE—CAMERON PARISH

Pure Oil Co.'s No. 11 Yount Lee, Sec. 12-13s-8w, 800 ft. S 66 deg. 42 min. from No. 9 ..... T.D. 7,681 ft; reaming.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 State-Lake Borgne, 850 ft. N, 330 ft. E of SE cor. Sec. 32-13s-15e ..... Rig.
Southern Sulphur Co.'s No. 1 Lake Levy, 400 ft. S, 500 ft. N of SW cor. Sec. 28-13s-15e ..... Rigging up.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 727 fee, 75 ft. N, 1,270 ft. W of SE cor. SE NW Sec. 29-9s-10w ..... Drlg. shale 4,279 ft.
Union Sulphur Co.'s No. 778 fee, 362 ft. N, 1,755 ft. W of center Sec. 29-9s-10w ..... Comp. 1,000 bbls. 4,839 ft.

TERREBONNE PARISH

The Texas Co.'s No. 8 State-Caillou Island, 1,050 ft. S, 2,770 ft. E of NW cor. Sec. 20-23s-20e ..... Driving piling.
The Texas Co.'s No. 8 State-Dog Lake, 4,087 ft. W, 1,877 ft. N of SE cor. Sec. 31-21s-16e ..... Drlg. 620 ft.
The Texas Co.'s No. 13 State-Lake Barre, 1,876 ft. W, 551 ft. S of NW cor. Sec. 30, in Sec. 28-21s-20e ... Salt 1,615 ft.

VERMILLION PARISH

Shell Pet. Corp.'s No. 1 Herbert, 2,310 ft. W, 330 ft. N of SE cor. Sec. 10-15s-1e ..... Drlg. sandy shale 6,974 ft.

VINTON—CALCASIEU PARISH

Marrs McLean's No. 15 Gray, Sec. 33-10s-12w ..... No report.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Cranfill-Reynolds Co.'s No. 1 Swearingen, 1,705 ft. NE along SE line from S cor. of C. K. Hamm Sur., and 336 ft. NW at right angles ..... Drlg. shale and boulders 2,631 ft.

BRAZORIA COUNTY

Amerada Pet. Corp. and Rycade Oil Corp.'s No. 3 Seaburn, 1,250 ft. E of W line and 4,550 ft. S of N line of Austin & Williams Sur. ..... D.S. test 4,468-77 ft; showed 1 joint sand and 2 joints mud.
Danciger O. & R. Co.'s No. 2 Hunt, Pledger, 6,550 ft. from E line, 5,550 ft. from S line of W. Carson Sur. Drlg. sandy shale 5,746 ft.
Tri-fin Oil Co.'s No. 1 Moers, 1,635 ft. SW of Chocolate Bayou, 493 ft. SE of NW line of P. Moore Sur. ..... No report.

BRAZOS COUNTY

Adkins & O'Neill's No. 1 Clay, 1,150 ft. E, 5,750 ft. N of SW cor. of Walter Southerland Sur. ..... Shale 3,534 ft; S.D.; W.O.

CHAMBERS COUNTY

Mills & Jones' No. 1 Gan, John S. Roberts Sur., 255 ft. W, 1,052.72 ft. S of NE cor. of 138-ac. tract .... Rig.

COLORADO COUNTY

Danciger O. & G. Co. and L. E. Hults' No. 1 C. L. Raver, B.B.B.&C. Sur., Sec. 1, 990 ft. out of SW cor. of 477-ac. tract ..... Drlg. shale 5,645 ft.
Fabrigus & Poole's No. 1 Lake Side Irrigation, 1,500 ft. SE, 500 ft. NE NW cor. Patrick Real Sur. ..... T.D. 1,445 ft; cmtd. 12½-in. csg. 1,150 ft.
Humble O. & R. Co.'s No. 1 John McShane, L.&G.N. Sur., Sec. 42, 466 ft. out of NE cor of tract ..... Drlg. shale 4,990 ft.
Plymouth Oil Co.'s No. 1 Ream, 330 ft. out of NE cor. of L.&G.N. Sur. No. 47 ..... No report.

FORT BEND COUNTY

Naylor & DeCosta's No. 1 Naylor, 4,350 ft. N, 55 deg. E from SW cor. 653-ac. tract in Christman Sur. .... T.D. 7,014 ft; P.B. to 5,600 ft.

GRIMES COUNTY

Koch et al's No. 1 Haferkamp, Samuel Fulton Sur., 335 ft. from S line, 347 ft. from E line of 189 acres.. Rig.
Southwest Pet. Co.'s No. 1 Greer, Pat O'Connor Sur., 200 ft. from W line, 400 ft. from N line of 150-ac. tract ..... Spudded.

HARRIS COUNTY

C. & C. Drlg. Co.'s (Weatherall) No. 1 Paden, 1,320 ft. from N line, 1,320 ft. from W line of Brock Sur. .. Cmtd. 10-in. csg. 491 ft; T.D. 520 ft.
H. B. Jordan's No. 1 Cochran, J. L. Jordan Sur., 1,950 ft. from S line, 1,930 ft. from E line ..... Rig.
Magnolia Pet. Co.'s No. 1 Kobs, 923 ft. from E line, 1,650 ft. from N line of lower J. M. Hooper Sur. .... Shale 4,973 ft.
Magnolia Pet. Co.'s No. 1 Martens, Joseph House Sur., 600 ft. from W line, 5,600 ft. from S line of tract .. Coring lime and shale 5,096 ft.
Polk Drlg. Co.'s No. 1 Malcomson, A. Schouten Sur., 500 ft. from N line, 1,800 ft. from E line of 283-acre Daniels tract ..... Drlg. shale 1,468 ft.

JACKSON COUNTY

The Texas Co.'s No. 1 Mitchell, S. F. Austin League, 450 ft. W, 450 ft. S of NE cor. of 63-ac. tract, Lot 28, Clement Subd. ..... Drlg. gumbo and boulders 2,142 ft.

LIBERTY COUNTY

Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C. Sur., Sec. 17, 300 ft. from S line, 2,440 ft. from E line of section ..... Drlg. shale 4,910 ft.

MATAGORDA COUNTY

Cockburn Oil Corp.'s No. 5 Hawkins, Shepherds Mott, 2,300 ft. SE, 1,800 ft. NE of W cor. Daniel McCarthy Sur. ..... T.D. 5,320 ft; drlg. sidetracked hole, hard sandstone 3,112 ft.
Humble O. & R. Co.'s No. 2 Pierce est., 1,900 ft. NE, 466 ft. NW at right angles out of SW cor. of Pierce estate, same being NW cor. of W. S. and L. B. Hunt tract, W. Carson Sur. ..... Drlg. shale 4,990 ft.
United North & South Dev. Co.'s No. 1 Stoddard (W.O.), 150 ft. W, 546 ft. N of SE cor. of Blk. 53, Buckeye townsite ..... T.D. 7,926 ft; coring sidetracked hole 7,804 ft.
United North & South Dev. Co.'s No. 1 Unit 14 (No. 1 Dr. Plotner), 1,210 ft. SE of No. 1 Stoddard and 136 ft. W of right of way of Collegeport branch of St. L.&B.M.R.R., Buckeye ..... Drlg. limey shale 6,255 ft.
United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... Fishing drill pipe 6,060 ft.
United North & South Dev. Co.'s No. 1 Unit 25, 1,335 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... Rig.

MONTGOMERY COUNTY

A. H. Parsons et al's No. 2 Drought, Kronknite Sur., 3,000 ft. N, 100 ft. E of NW cor. of A. B. Hill 46½ acres ..... Drlg. sandy shale 4,454 ft.

POLK COUNTY

Anderson et al's No. 1 Duke, Peter J. Manard Sur., 330 ft. out of NW cor. of 335-ac. tract ..... T.D. 4,730 ft; trying to reset 1,000 ft. of 10-in. surface csg.
Boone, Clark & Boone's No. 1 Tex. Long Leaf, 2,335 ft. NW along NE line of D. B. McComb Sur. from E cor. and 1,185 ft. SW at right angles ..... Drlg. shale 1,098 ft.
Roxie Oil Co.'s No. 1 Reed, A. Viesca Sur., 150 ft. out of NW cor. of 479-ac. lease ..... Drlg. shale 4,400 ft.
Shell Pet. Corp.'s No. 1 Davis & Holmes, 330 ft. S and E out of NE cor. of J. A. Munson 80-ac. tract in Mary Sweeney (A. Viesca) Sur. ..... Set 14 ft. of 5-in. screen 4,327 ft; washing.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 5 O'Connor, Florentine Rice Sur., 933 ft. NW of No. 4 ..... Drlg. sand and shale 690 ft.
Geo. M. Smith's No. 1 J. M. O'Brien, 450 ft. W of center of E line of Winfield Sur. ..... No report.

TRINITY COUNTY

L. G. Priest's No. 1 J. B. Gibson, Wm. Beardsley Sur., 900 ft. from N line, 200 ft. from E line of tract .... S.D. 2,000 ft.

TYLER COUNTY

Republic Prod. Co. and Houston Oil Co.'s No. 1,014-E (No. 2 Sterne fee), Adolph Sterne Sur., 1,300 ft. S, 400 ft. W of No. 1 Sterne fee ..... Drlg. shale 4,645 ft.

VICTORIA COUNTY

Stoneleigh O. & G. Co.'s No. 1 Terrell, SW cor. of R. Manchola Sur. No. 2 ..... D.S. test 3,980-83 ft; showed 9 fourbles S.W. and 300 lbs. gas pressure.
The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. ..... T.D. 1,176 ft; blowing gas.

WALLER COUNTY

Trapshooter Reilly Oil & Royalty Co.'s No. 1 Menke, Justo Llende Sur., 600 ft. at right angles from NW line at 250 ft. at right angles from E line of 330-ac. tract ..... Drlg. shale 2,825 ft.

WASHINGTON COUNTY

Cline, Taylor et al's No. 1 Chadwick, Isaac Lee Sur., 550 ft. from N line, 1,000 ft. from E line of 320-ac. tract ..... Drlg. shale 1,162 ft.

WHARTON COUNTY

Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 25, Morris & Cummings Sur. ..... Broken sand and shale 6,150-72 ft; tried to make D.S. test.
Smith & Daniels' No. 1 Mitchell, H.&T.C. Sur. No. 8, 330 ft. from NE line of NE 80-ac. tract in center of tract NW and SE ..... T.D. 6,875 ft; plugged to 3,350 ft.

Wildcat Operations in Southwest Texas

(Continued from Page 51)

Earl S. Post's No. 1 Bilhartz, 1,265 ft. from W line, 2,169 ft. from S line of 385-ac. tract in F. Rolen Sur. No. 48 ..... T.D. 771 ft; setting csg.
Sun Rise Oil Co.'s No. 1 R. J. Uecker, 150 ft. from N line, 450 ft. from W line J. M. Perez Sur. ..... T.D. 820 ft; abd.
Tipton's No. 1 Gembler, 514 ft. from W line, 616 ft. from N line of 120-ac. tract in M. Gotari Sur. ..... Spudded in.
Milo Trussell's No. 1 K. K. Harring, in J. Cantu Sur. ..... T.D. 1,350 ft; S.D.

BLANCO COUNTY

H. T. McGee's No. 1 Glasscock, center Sur. 167 ..... T.D. 1,580 ft; drlg.

CALDWELL COUNTY

F. L. Thomson's No. 1 Lawler, 150 ft. from NW line, 150 ft. from E of road in James Berry Sur. ..... T.D. 2,045 ft; setting csg.

DUVAL COUNTY

Coronado Oil Co.'s No. 1 Wood-Welder, 1,980 ft. from W line, 950 ft. from N line of Sur. No. 211 ..... Rigging up.
Huff et al's No. 1 A. Roach 685 ft. from E line, 43 ft. from S line of Blk. 7, Sur. No. 457 ..... Spudded in.
Ed Leach et al's No. 1 C. J. Bain, 330 ft. to S line, 330 ft. to E line of NW SW of Sur. 264 ..... T.D. 1,940 ft; abd.
Smith & Hunter's No. 1 Olivarez, 1,640 ft. from N line, 940 ft. from W line of Sur. No. 80 ..... T.D. 3,390 ft; drlg.
Whisenant & Trenchard's No. 1 Duval County Land Co., 1,750 ft. from N line, 1,100 ft. from E line of Sur. No. 76 ..... T.D. 750 ft; drlg.
Wright & Wilson's No. 1 Wood-Welder, 5,150 ft. from N line, 7,200 ft. from W line of Sur. No. 102 ..... Rigging up.

FRIO COUNTY

James E. Greenlee's No. 1 W. W. Burns, 613 vrs. to N line, 900 vrs. to W line of Antone Hutzler Sur. ..... T.D. 2,330 ft; set csg; waiting on cement.

GUADALUPE COUNTY

Luling O. & G. Co.'s No. 1 Schueneman, 450 ft. from S line, 150 ft. from W line of 130-ac. tract in B. Fuqua Sur. ..... T.D. 1,510 ft; drlg.
Magnolia Pet. Co.'s No. 1 E. W. Williams, 200 ft. from N and E lines of 100-ac. tract in Green DeWitt Sur.. T.D. 2,376 ft; drlg.
Buckley Bros.' No. 1 M. T. Howell, 2,800 ft. S of road, 187 ft. from E line of tract in Jacob Darst Sur. .... Moving in tools.

HIDALGO COUNTY

Carl & Johnston's No. 1 Doughty, 187 ft. from S and E lines of Lot 11, Blk. 8 of Subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 1,860 ft; drlg.
Maxwell & Young's No. 1 King, 175 ft. from N and E lines of Lot 8, Blk. 16, Alamo tract ..... Derrick.

JIM HOGG COUNTY

Cole Pet. Co.'s No. 1 E. Vela Hrs., 5,184 ft. from E line, 2,762 ft. from S line of Sur. 588 in El Peyote grant ..... T.D. 2,640 ft; drlg.
D. C. DeWitt's No. 1 A. G. Lopez, 3,475 ft. from W line, 425 ft. from N line of Sur. No. 106 ..... Spudded in.
R. F. Foree's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sec. 9 of Holbien Sur. of Share 3 of Las Animas grant ..... T.D. 2,507 ft; reinstated; to deepen.

KARNES COUNTY

Magnolia Pet. Co.'s No. 1 C. G. Porter, 250 ft. from W line, 1,650 ft. from S line of 1,362-ac. tract and survey in S. Morris Sur. ..... T.D. 3,656 ft; swabbing.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,220 ft. from W line of Sec. 1,923, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 795 ft; drlg.

KLEBERG COUNTY

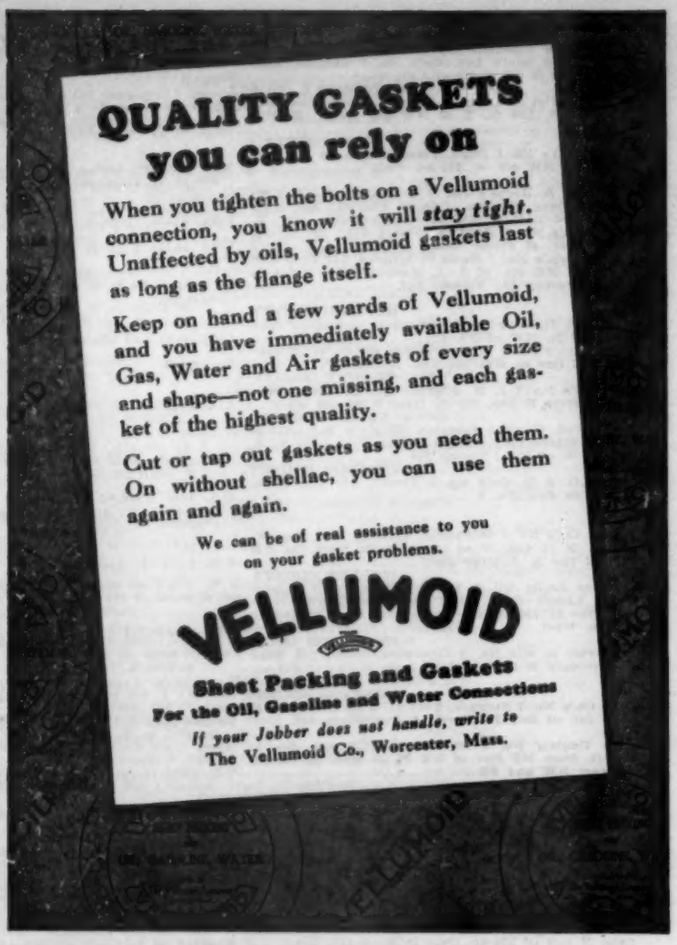
Harry Clark's No. 1 V. J. Kivlin, 360 ft. from E line, 400 ft. from S line of Sec. 39, Blk. 3, Kleberg Town & Improvement Co. Sur. ..... T.D. 1,300 ft; drlg.
Harris et al's No. 1 Dennett, 660 ft. from S line, 760 ft. from E line of Blk. 7, Sec. 38, Kleberg Town & Improvement Co. Sur. ..... T.D. 2,797 ft; resumed drlg.

LIVE OAK COUNTY

Jacob, Buzzini & Pickett's No. 1 O. M. Withers, 920 ft. to N line, 370 ft. to W line of Farm 10, McCowan ranch ..... Set surface csg.

LEE COUNTY

Paton Bros.' No. 1-B Turner, 424 ft. from NW line, 375 ft. from NE line of 51.9-ac. tract in David Hudson Sur. ..... T.D. 2,850 ft.; set csg.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McMULLEN COUNTY

Jaqua & Crow's No. 1 Hagist, 330 ft. from N and W lines of R. W. Mills Sur. No. 467 ..... T.D. 2,453 ft; drlg.

C. R. Pope, Inc.'s No. 1 A. C. Miles, 200 ft. to E line, 3,875 ft. to S line, Sur. 149 ..... T.D. 465 ft; drlg.

Tarver & Nance Co.'s No. 2 Dickson Farm Mrtg. Co., 700 ft. due W of No. 1, 900 ft. from NE line, 300 ft. from SE line of survey, Sec. 45 ..... T.D. 682 ft.; changing rigs.

NUECES COUNTY

John F. Camp's No. 1 King, 150 ft. from N and W lines of E½ Sec. 29 of Richard King Subd. Sur. .. Derrick; waiting for rig.

STARR COUNTY

S.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,530 ft; setting csg.

W. P. Chancellor's (Bryan & Tharp) No. 1 A. Guerra, 26,000 ft. from line, 2,600 ft. from E line of Share No. 6 of San Jose grant, in NE cor. of county ..... T.D. 1,410 ft; waiting for tools.

Chiquita Oil Co.'s No. 1 Starr County Cattle Co., 341 ft. from W line, 271 ft. from S line of Share 60, Partition of Porcions 38 and 39 ..... T.D. 613 ft; drlg.

F. B. Cooper's No. 1 J. M. Martinez, 150 ft. to S and E lines of A.B.&M. Sur. No. 135 ..... T.D. 2,110 ft; drlg.

Goodwin & Yantis' No. 1 Walker, 450 ft. SE of W line of Isabel Lopez property in Sur. 767 ..... T.D. 1,300 ft; drlg.

E. H. Stickney's No. 1 H. Gonsales, 300 ft. from S and E lines of H.E.&W.T.R.R. Sur. No. 339 ..... Spudded in; changing to heavier rig.

UVALDE COUNTY

Evans & Thompson's No. 1 Farris, 400 ft. from S and W lines of 626-ac. tract near center of John J. Hammond Sur. ..... T.D. 300 ft; changing rigs.

WEBB COUNTY

Earl Calloway et al's (Osborne) No. 1 Gates, 330 ft. from N and W lines, SE Sec. 14, Blk. 1 (Gates ranch), C.C.S.D.&R.G.N.G.R.R. Sur. ..... T.D. 2,200 ft; drlg.

Cole Pet. Co.'s No. 1 A. Villareal, 330 ft. from S and W lines of Sur. No. 1,090, 5 miles E of Oilton ..... T.D. 3,115 ft; drlg.

Edwin M. Jones' No. 1 Callaghan, 1,650 ft. from E line, 990 ft. from S line of Sec. 603 of B.S.&F. Sur., 13 miles E from Callaghan Switch ..... T.D. 300 ft; waiting for wtr.

Gibson et al's No. 1 Smith, 150 ft. from NE line, 300 ft. from NW line of Blk. 5, Sur. No. 1,102 ..... Rigging up.

Will Ohlhausen's No. 1 Moses Jones, 273 varas from E line, 516 varas from S line of 100-ac. tract in Sur. No. 1,640 ..... Spudded in.

P. G. Rouse's No. 1 S. M. Withers, 3,000 ft. from E line, 400 ft. from N line of Sur. No. 28 ..... T.D. 1,010 ft; drlg.

Seagraves & Salsbury's No. 1 A. E. Gates, 3,350 ft. from S line, 725 ft. from W line of Sec. 66, Blk. 1, C.C.S.D.&R.G.N.G. Sur. ..... T.D. 2,185 ft; drlg.

Shankle & Roche's No. 1 W. W. Stell, 660 ft. from N and W lines of NW NW of No. 37 Sur., 11 miles N from Mirando City ..... T.D. 150 ft; drlg.

WILLIAMSON COUNTY

McNeill & Matthews' No. 1 B. H. Hamilton, NE cor. 105-ac. tract in West Sur. ..... T.D. 1,350 ft; drlg.

WILSON COUNTY

Sexton Pet. Co.'s No. 1 Joe Gutzeit (1,033-ac.), 150 ft. from W line, 150 ft. from S line of road of F. Flores No. 18 Sur. ..... T.D. 175 ft; drlg.

ZAPATA COUNTY

Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 1,240 ft.; standing.

O. W. Killam's No. 4 Bruni, 150 ft. from NW line, 1,172 ft. from NE line, Blk. 53, Killam Subd. Borrego grant ..... T.D. 1,875 ft; abd.

O. W. Killam's No. 5 Bruni, 150 ft. from SW and SE lines of Blk. 53, Killiam Subd. of B-8 Blas Uribe Subd. of Borrego grant ..... Rigging up.

A. C. Savey et al's No. 1 Flores, 150 ft. from NW line, 206 ft. from NE line of Blk. 6, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... T.D. 1,157 ft; drlg.

A. H. Wray's No. 1 Gopher Trust Est., in Fullerton Subd. of Share 8 of J. V. Borrego grant ..... T.D. 310 ft; drlg.

ZAVALA COUNTY

Zavala O. & G. Co.'s No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13.. T.D. 5,508 ft; waiting for wtr.

Southwest Texas Proven Areas

Week Ending April 29

HILBIG POOL—BASTROP COUNTY

Company, well farm name section and block— Remarks

Humble O. & R. Co.'s No. 2 Wilhelm, 415 ft. from NE line, 295 ft. from SE line of tract in Andrew Mayes Sur. ..... T.D. 2,357 ft; set csg.

RIDDLE POOL—BASTROP COUNTY

Eastland Oil Co.'s No. 1 Riddle, 150 ft. from E line, 850 ft. from S line of 39-ac. tract in Leach Sur. .... T.D. 2,387 ft; abd.

Witherspoon Oil Co.'s No. 1 A. D. Harris, 1,050 ft. from NW line, 3,350 ft. from SW line of John Maxmilian Sur. ..... T.D. 2,175 ft; coring.

TULETA POOL—BEE COUNTY

Aztec Oil & Roy. Co.'s No. 2 Taylor, 1,400 ft. from N line, 330 ft. from E line, W½ NW Sec. 13, Ragsley Subd. ..... T.D. 4,113 ft; comp. 40 bbls. dly.

Grisham et al's No. 1 Rapp & Hatch, 1,700 ft. from N line, 2,640 ft. from E line, Sec. 12 of Ragsley's Subd. of Uranga grant ..... Location changed; bldg. derrick.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

W. T. Daniels' No. 1 F. J. Smith, 330 ft. from N and W lines of SW of NE of Sur. No. 46 ..... T.D. 2,311 ft; comp. 100 bbls. dly.

Hester Bros.' No. 1 fee, 330 ft. from S and E lines of NE of Sur. No. 47 ..... Rigging up.

Magnolia Pet. Co.'s No. 1 Hahl-Burch, 330 ft. from S and E lines of SW of Sur. 43 ..... T.D. 2,258 ft; drilled plug.

Navarro Oil Co.'s No. 5 Hahl, 330 ft. from W line, 990 ft. from S line of W½ of Sur. 360 ..... T.D. 2,265 ft; comp. 25 bbls. hrly. on ¾-in. choke.

Navarro Oil Co.'s No. 6 Hahl, 330 ft. from W line, 990 ft. from S line of Sur. No. 360 ..... T.D. 475 ft.; drlg.

Reynosa Oil Corp.'s No. 6 Hahl, 330 ft. from N line, 1,650 ft. from W line of N½ NE of Sur. No. 42 .... T.D. 2,311 ft; comp. 45 bbls. hrly. on 9/16-in. choke.

Southwest Drlg. Co.'s No. 9 Wendt, 990 ft. from S and E lines of SE of Sur. No. 43 ..... Rigging up.

Sun Oil Co.'s No. 1 Mrs. Weiderkehr, 330 ft. from S and E lines of Sur. 359 ..... T.D. 850 ft; drlg.

The Texas Co.'s No. 4 H. Wendt, 330 ft. from N line, 990 ft. from E line of N½ of NW of Sur. No. 42.... T.D. 2,258 ft; comp. 36 bbls. hrly. on 9/16-in. choke.

The Texas Company's No. 7 Wendt, 330 ft. from N line, 990 feet from W line of NW of Sur. No. 42 .... Rigging up.

PETERS POOL—DUVAL COUNTY

Shasta Oil Co.'s No. 2 Potera, 330 ft. from N and W lines of S of W 200 acres of S½ of Sur. No. 175.. T.D. 175 ft; drlg.

SARNOSA POOL—DUVAL COUNTY

Sarnosa Oil Corp.'s No. 6 A. Weil, 330 ft. from NW and NE lines of Sur. No. 130 ..... Derrick.

Sun Oil Co.'s No. 3 Cano, 330 ft. from NE and SE lines of Sur. No. 576 ..... Derrick.

SAL-MAR POOL—GUADALUPE COUNTY

Sal-Mar Oil Co.'s No. 1 Chas. Woehler, 1,940 ft. from N line, 300 ft. from E line of G. W. Williams No. 46.. Rigging up.

JACOB POOL—McMULLEN COUNTY

Jacob, Buzzini & Pickett's No. 11 Jacob, 160 ft. from most westerly SE line, 1,542 ft. from NE line of Jacob Sur. No. 3 ..... T.D. 952 ft; swabbing.

SAXET FIELD—NUECES COUNTY

C.N.T. Co.'s No. 1 L. M. Vance, 330 ft. from E line, 1,320 ft. from S line of 255-ac. tract in Sur. 402... T.D. 3,336 ft; drlg.

Gibson Oil Corp.'s No. 2 Rand Morgan, 1,320 ft. from N line, 330 ft. from E line of lease ..... T.D. 5,142 ft; testing.

Gulf Port Oil Co.'s No. 3 Frank Bliss, 1,650 ft. to N line, 330 ft. to E line of 235-ac. tract in J. W. Stevens Sur. No. 406 ..... T.D. 5,469 ft; drlg.

Gulf Port Oil Co.'s No. 3 Humphreys, 115 ft. from N line, 330 ft. from W line of lease (S offset to No. 1 Gibson, Rand Morgan Sur.) ..... T.D. 1,740 ft; drlg.

Gulf Port Oil Co.'s No. 1 Rand Morgan, 330 ft. from N and E lines of 80-ac. lease ..... T.D. 4,905 ft; standing.

Holliday et al's No. 2 Smith 660 ft. N of No. 1 ..... T.D. 4,265 ft; comp. gas well 1,250 lbs.

Shasta Oil Co.'s No. 1 Erigan, on N end of 10-ac. strip, W of Quiros tract ..... T.D. 4,782 ft; drlg.

Sinclair Prairie's No. 1 Issencee, 330 ft. from N and W lines of 80-ac. tract in Sur. No. 404 ..... T.D. 3,785 ft; drlg.

MATHIS POOL—SAN PATRICIO COUNTY

Geo. W. Scruggs' No. 1 Collins ..... T.D. 1,516 ft; drlg.

WHITE POINT FIELD—SAN PATRICIO COUNTY

Saxet Oil Co.'s No. 19 Rachel ..... T.D. 7,304 ft.; P.B. to 4,875 ft.; running tubing.

LOS OLMOS POOL—STARR COUNTY

Hooks & Weaver's No. 15 Kelsey Bass, 200 ft. from W line, 150 ft. from S line, NW SE Sec. 6, Pors. 75, 76, 77, jurisdiction Camargo ..... T.D. 1,150 ft; drlg.

Hooks & Weavers' No. 14-A3 Kelsey Bass, 200 ft. from W line, 350 ft. from S line of E 30 acres of NE SW Sec. 6, Pors. 75, 76, 77, Camargo ..... Drlg. 1,268 ft; moving in larger rig.

RIO GRANDE CITY—STARR COUNTY

Sioux Oil Co.'s No. 4 Goodrich, 975 ft. from W line, 662 ft. from N line, Blk. 1, Tract 5, Porcion 81, Camargo ..... T.D. 1,470 ft; comp. 45 bbls. dly. on pump.

LAUREL POOL—WEBB COUNTY

Dyck Oil Co.'s No. 4 Garcia-Villareal, 150 ft. from S and E lines of NE NW of Sur. No. 1,100 ..... T.D. 2,213 ft; set csg.

O. W. Killam's No. 2 Garcia-Villareal, 150 ft. from N and W lines of NE SE of Sur. No. 1,100 ..... T.D. 1,535 ft; drlg.

Magnolia Pet. Co.'s No. 5 Garcia-Villareal, 150 ft. from S and W lines, NW NE Blk. 3, Sur. No. 1,100 ..... T.D. 2,100 ft; drlg.

Shankle & Newton's No. 1 S. Benavides, 330 ft. from S and E lines of Blk. 13, in No. 2,272 Sur. ..... T.D. 40 ft; set surface csg.; W.O.C.

South Texas Oil Co.'s No. 16 Laurel, 150 ft. from S and E lines of Blk. 11, Sur. 271 ..... T.D. 2,250 ft; drlg.

Sal-Mar Oil Corp.'s No. 1 Vela, 660 ft. from NW and SW lines of Blk. 16, Sur. No. 1,011 ..... T.D. 3,207 ft; drlg.

M. Stein's No. 1 Garcia-Villareal, 150 ft. from SW and NW lines of Sur. No. 720 ..... Rigging up.

Wise & Jackson's No. 2 Garcia & Villareal, 150 ft. from N and E lines of Blk. 7, Sur. No. 1,100 ..... Rigging up.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 4 Duval County Ranch Co., 810 ft. from N line, 120 ft. from W line of Blk. 22, Share 3, Zapata County School Land ..... Rigging up.

Moca Oil Co.'s No. 3 Duval County Ranch Co., 170 ft. from W line, 1,110 ft. from N line of Blk. 22, Share 3 of Zapata County School Land Sur. ..... T.D. 896 ft; comp. 20,000,000 ft. of gas.

Whisenant & Trenchard's No. 1-A Duval County Ranch Co., 650 ft. to N line, 150 ft. to W line of Blk. 13, Sur. 101 ..... T.D. 1,163 ft; drlg.

ESCOBAS POOL—ZAPATA COUNTY

Lefevre et al's No. 1 M. Garza Hrs., 330 ft. from NW and SW lines of Blk. 53, C. A. Douglas Subd., Zorro ranch, Comitas Grant Sur. ..... T.D. 1,630 ft; drlg.

B. W. Roscoe's No. 3 Bustamente, 300 ft. from NE line, 375 ft. from NW line of SE of Share 33, Comitas grant ..... T.D. 1,240 ft; set csg.

The Texas Co.'s No. 25 Measles, 17,495 ft. from SW line, 1,779 ft. from SE line of Cerritor Blanco grant.. T.D. 1,190 ft; comp. 60 bbls. dly.

MARTINEZ POOL—ZAPATA COUNTY

P. H. Neilson's No. 1 A. Trevino, 300 ft. from S line, 770 ft. from E line of Blk. 19, Sur. No. 411..... T.D. 2,265 ft; abd.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 54)

MILLER COUNTY

J. T. Humphrey's No. 1 Grace, C SW SW Sec. 9-15-27... Cmtd. 10-in. 206 ft.

UNION COUNTY

Tom Nash's No. 1 Union Sawmill, 200 ft. N and E, SW cor. NW NE Sec. 19-18-11 ..... S.D.; W.O. 3,160 ft.

East Texas

CASS COUNTY

T. H. Pardoe, operator's No. 1 S. A. Orr, in the G. W. Morris Sur., 390 ft. east of the W line of the G. W. Morris Sur., also the east line of the David Frazier Sur. ..... S.D. fuel, 2,160 ft.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—BETHANY

Company, well, farm name, section and block—	Remarks:
Tom Collins Pet. Co.'s No. 1 Gill & Lipscomb, 660 ft. N, 1,506 ft. E, SW cor. Sec. 17-16-16	Derrick.

CADDO—HOSSTON

Caddo Prairie O. & G. Co.'s No. 1 Hawkins, C SE SW Sec. 14-23-15	S.D. 1,900 ft.
Gibson Oil Corp.'s No. 1 J. H. Dominick, 330 ft. S and W, NE cor. SW NE Sec. 31-23-14	S.D.; W.O. 3,142 ft.

RHODESSA AREA

Pyramid O. & G. Co.'s No. 1 Shuttleworth, C SW NE Sec. 3-18-16	Est. 10,000,000 ft. gas; D.S. test 2,748 ft.

SABINE PARISH—ZWOLLE

Byars et al's No. 1 Ervin & Bishop, 550 ft. E, 450 ft. N, SW cor. Sec. 14-7-11	Cmtd. 6-in. 2,087 ft; drlg. 2,200 ft.
Doyle et al's No. 1 M. D. Russell, 330 ft. N and W, SE cor. NE SE Sec. 23-8-12	Dry 2,405 ft; dry 2,530 ft; W.O.
Graham Prod. Co.'s No. 1 Lites, 330 ft. S and E, NW cor. SE SW Sec. 28-8-11	T.A. 2,700 ft.
H. C. Moulding's No. 1 Brumley, 330 ft. N, 330 ft. E, SW cor. NW NW Sec. 2-7-11	Tested dry; W.O. 2,660 ft.
Ohio Oil Co.'s No. 1 A. C. Phillips, 330 ft. S and W, NE cor. SW SW Sec. 30-8-11	Dry 2,232 ft; treating with acid, 2,527 ft; showing oil.
Robertson Drlg. Co.'s No. 1 J. W. Hughes, 1,320 ft. W, C. Sec. 36-8-12	Top marl 2,252 ft; cmtd. 6-in.
Scully & Beach's No. 2 Lafitte, 1,980 ft. S, 134 ft. E, NW cor. Sec. 13-7-11	Arranging to set tubing 2,636 ft.
C. H. Tuttle's No. 4 Byrd, 800 ft. S, 920 ft. E, NW cor. NW NW Sec. 7-7-10	Derrick.

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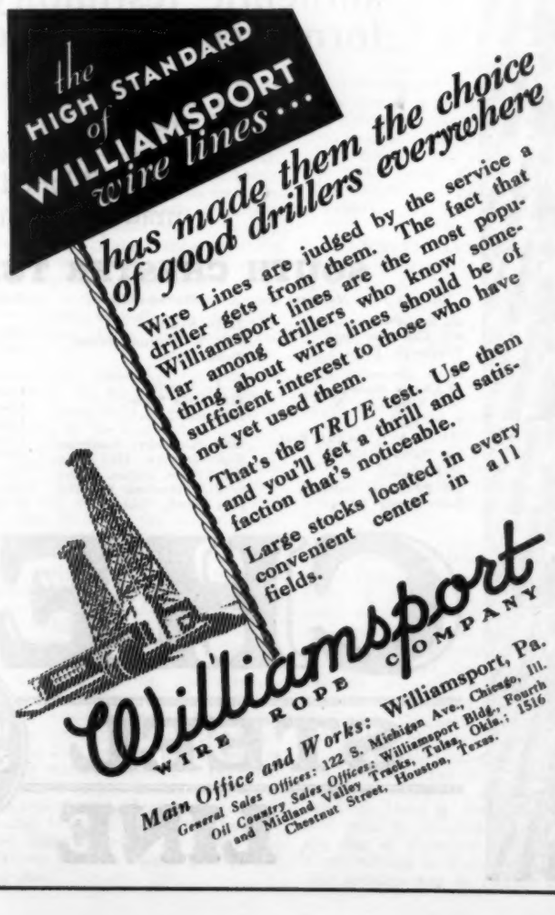
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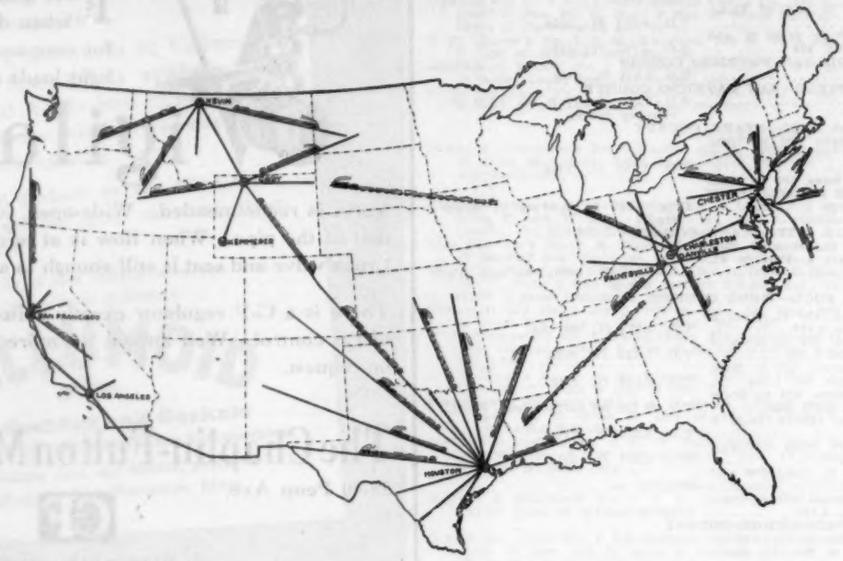

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Louisiana Iron & Supply Co., Shreveport, La., Henderson and Kilgore, Texas

Great Northern Tool & Supply Co., Billings and Kevin, Mont., Kemmerer and Cody Wyo.

Star Drilling Machine Co., 550 Clinton Street, Portland, Oregon and Akron, Ohio

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NATURAL GAS DEVELOPMENTS

5,500,000-Foot Gasser in Geneva, N. Y., Field

CORNING, N. Y., Apr. 29.—The Geneva Field in Ontario County, New York, came into prominence in the past week when the Geneva Natural Gas Co. completed a well on a property recently acquired from the Great Northern Co. The new well started off at 5,500,000 feet of gas per day. The pay was found at 978-1,075 feet in Niagara limestone.

The Geneva Natural Gas Co. has decided to drill deeper its No. 1 O'Connor in Ontario County, New York. It was temporarily abandoned at 2,864 feet. In Allegany County, New York, Kerr & Kaufman's No. 1 Woodruff was reported good for 600,000 feet of gas at a depth of 2,974 feet. The Belmont Quadrangle Drilling Co.'s No. 1 Chapman was straightening hole at 1,315 feet. A number of other southern New York tests are temporarily shut down.

George Dovovan has made location for a test on the Reynolds property in Thurston Township, Steuben County. Peterman and others have made a location for a test on the P. L. Patrick farm in Phelps Township, Ontario County.

Only one well was reported drilling in the Tioga, Pa., Field, that being G. K. Rodgers and others' No. 1 French, which had reached a depth of 2,300 feet.

Most of the gas tests in Potter County were shut down for various reasons, some of them at depths not far above Oriskany sand horizon. The North Branch Development Co. is moving in tools to drill No. 1 Frank Moe, in Allegany Township.

Gas Utility Sales Drop; Mid-Continent Has Gain

Revenues of the manufactured and natural gas industry aggregated $66,807,500 for February, 1933, compared with $71,552,300 for February, 1932, a decline of 6.6 per cent.

The manufactured gas industry reported revenues of $32,871,800, a drop of 8.3 per cent, while revenues of the natural gas industry totaled $33,935,700 or 4.9 per cent less.

Sales of manufactured gas totaled 30,949,300,000 feet, a decline of 6.8 per cent, while natural gas sales were 86,261,700,000 feet, a drop of 0.6 per cent.

In New England February sales were 11 per cent under a year ago, while in the Middle Atlantic states the decline was much less, amounting to 5.2 per cent for New Jersey and 4.2 per cent for New York. In Pennsylvania the loss was only 3.8 per cent. The curtailment in manufactured gas sales was more pronounced in the East North Central states, Wisconsin showing a loss of 7 per cent and Illinois of 8 per cent. In Michigan, February sales were 11 per cent under a year ago, while revenues were less by nearly 16 per cent, the relatively greater decline of revenues in that state doubtless reflecting in part the banking troubles experienced during the latter part of February.

Sales of natural gas in the Mid-Continent area showed a gain for the month over a year ago. In Texas the increase amounted to 2 per cent while Oklahoma companies reported a gain of nearly 5 per cent.

ALBERTA PIPE LINE TAXATION

CHATHAM, Ontario, Apr. 29. — The Alberta provincial government has introduced legislation reserving to the province the sole right to tax oil and natural gas pipe lines under its jurisdiction. The bill aims at bringing pipe lines passing through municipal and improvement districts under government control.

First Public Use of Gas in America Is Commemorated at Baltimore, Md.

By ALEXANDER FORWARD
Managing Director, American Gas Association*

Rembrandt Peale, founder of Peale's Museum, by reason of his display of the new illuminant in this very building, was largely instrumental in giving Baltimore the honor of having the first gas company in this country. Following the issuance of the municipal ordinance on June 17, 1816, the company was incorporated February 5, 1817, Rembrandt Peale being named among its founders.

The most commonly used early substitutes for daylight were flaming torches, whale oil lamps, candles and kerosene oil lamps. Cleaning and trimming, the necessity for keeping fuel supplies on hand, together with smoke and offensive combustion odors, along with a very definite fire hazard, all served to create a growing demand for a superior lighting service. Conditions were ripe for prompt acceptance of such an agent; in the little Cornish town of Redruth destiny had marked the creator of a new industry. There in 1792, William Murdoch experimenting with gas made by distilling bituminous coal, attempted to cap a gas flame with his wife's thimble. Punctured with many small holes from the eye of the sewing needle a simple but effective illuminating flame resulted. In appearance it resembled the inverted claw of a game cock and served as a model for the first gas burner, known as the cockspur burner. Light was obtained from hot luminous particles of carbon which in turn were derived from the decomposition of the rather complex hydrocarbon gases of which gas made from coal largely consists.

Murdoch, with his immediate predecessors and contemporaries, were great technicians as well as men of vision. Van Helmont, the Belgian, gave our product its name "gas" in 1609; Boyle enunciated his law of gases in 1662, and Doctor Clayton, the English minister, made gas from bituminous coal in 1665. Cavendish, Lavoisier, Priestley, of oxygen fame (also the inventor of our gas water seal), and many others contributed largely to the sound foundation on which the gas industry is built.

Samuel Clegg, in 1813, introduced one of the greatest adjuncts of the gas industry, the meter. It was invented just one year before Rembrandt Peale's public demonstration. Seventeen years later the first gas meter factory in America was started by Samuel Hill in Baltimore.

Toward the close of the eighteenth century numerous developments occurred in many countries and widely separated cities whereby the possibilities of manufactured gas became better known. Winsor in England, LeBon in France and David Melville in the United States were among the earliest who had a definite hand in promoting the new project. In London, for example, Winsor gave a public display of gas lighting at the Lyceum Theater in 1804; David Melville of Newport, R. I., appears to be the first to have manufactured gas for illuminating purposes in this country. He lighted his home and the street in front, in 1806.

The great lighting experiment in Baltimore was carefully watched by other communities which eventually followed suit a few years later, Boston and New York being next in order. For many years various forms of open flame burners were employed, functioning on the same general principle of the cockspur discovered by Murdoch. Next came the gas Argand, a circular burner modeled on the oil Argand. Later, the industry adopted a revolutionary development in lighting when Bunsen's blue flame burner with Auer's mantle attached became available. About 1890 what was later known as the Welsbach incandescent mantle burner came along at the psychological moment to strengthen the hands of an established lighting industry just beginning to feel the competition of Edison's new electric light. A few years later the inverted shadowless mantle burner was introduced to assist in meeting, for a time, the seemingly irresistible progress of the electric light.

There are some who do not concede that gas for lighting has had its day and in many a large European city modern high pressure incandescent gas street lighting is a joy to behold and of economic interest to its users. But, however that may be, the use of gas as a heating agent in the Bunsen burner to raise to incandescence the rare earths (which glow when heated) of Auer's mantle gave added impetus to the use of gas as a fuel. The unit of heat became more important than the measure of light, and candle power gave way to the B.t.u. Other applications of the new fuel, in addition to lighting, were speedily made, notably that of cooking. As early as 1849 a Mr. Ricketts registered the Economic Gas Cooking Stove with which, it was claimed, a large family "might provide themselves with fuel for roasting, boiling, stewing and broiling, at all hours, without the waste of having to maintain a large coal fire constantly burning." The commentator went on to remark "we hope at no distant time to see a gas cooking stove and gas fittings, as landlords' fixtures, in the humble dwellings of the working population of our cities and towns, as well as contributing to the comforts of the mansions of the rich."

Having briefly glanced at the proposed use of gas for the sustenance and pleasure of the inner man as envisoned by the pioneers, it is interesting to know that they did not overlook his bodily comfort. Frederick Accum was an English "Operative Chemist" who, in 1815, wrote a treatise on gas light. He remarked, "from trials made on the subject I am enabled to state that three Argand's lamps consuming 5 cubic feet of gas per hour are sufficient to keep a room 10 feet square at a temperature of 53° F. when the air without doors has a temperature of freezing."

Winsor, who was also the industry's first promoter, included claims in his patent for room heating. Other inventions a few years later incorporated fundamentally sound principles, as for example, the circulation of gas-heated air currents in 1833; sufficient interest was aroused to warrant starting a gas heating equipment factory in England. However, no really great advances were made here until about 1880 when American gas men began to report successful trial installations for both manuufactured and natural gas.

*At unveiling of paintings commemorating first public use of gas in America, in Municipal (Peale) Museum, Baltimore, Md. April 28, 1933.

California Gas Output and Sales Show Decline

California's natural gas production for March declined 687,000,000 feet daily, compared with 775,000,000 feet for February, a decrease of 88,000,000 feet daily.

Sales showed a corresponding drop with a total outlet of but 435,000,000 feet, against 504,000,000 feet, a decline of 69,000,000 feet, while the dry gas blown to the air increased, totaling 19,700,000 feet, a 3,300,000-foot gain. Los Angeles Basin fields reflected the temporary shut down following the quake, particularly Long Beach and Dominguez.

Kettleman Hills' total output amounted to 283,000,000 feet against 325,300,000 feet. Sales for the month aggregated 346,000,000, against 290,500,000 feet, an increase of 55,500,000 daily, while the most important gain in blown gas was shown by this field with a total of 8,300,000 feet daily, against 5,400,000 feet. March, however, was on a 31-day basis, compared with 28 days for February.

Ventura Avenue shaded off slightly with 113,000,000-foot output for March, against 117,000,000 feet. Sales were correspondingly higher, totaling 92,800,000 feet, against 90,600,000 feet, while the gas blown to the air was 3,100,000 feet, against 4,400,000 feet.

Long Beach dropped to 68,100,000 feet, against 73,900,000 feet, with sales of 10,100,000 feet daily, against 12,000,000 feet. Gas blown totaled 2,140,000 feet, against 800,000 feet, a record for Long Beach, due largely to the plant shut down following the quake.

Santa Fe Springs dropped to 49,800,000 feet, against 56,600,000 feet, with sales of 19,000,000 feet, compared with 21,800,000 feet, and a blow of but 340,000 feet, against 100,000 feet.

Dominguez made the sharpest drop of any of the smaller fields, with a decline to 19,500,000 feet, against 32,400,000 feet. Sales also were off to 10,500,000, against 19,800,000 feet, with a blow of 930,000 feet, against 100,000 feet.

Del Rey had the lowest gas blow, 16,000 feet, against 40,000 feet, with Belridge 134,000 feet, against 30,000 feet for February.

PENNSYLVANIA RATE CASE

HARRISBURG, Pa., May 1. — The Manufacturers Light & Heat Co., Pittsburgh, in an answer filed with the public service commission to the complaint of western Pennsylvania boroughs, denied its rates are too high. The company also answered the petition of the boroughs, asking the commission to subpoena books and papers of the utility corporation for examination, and requested the rate body to deny it. In answer to the complaint the company alleged that it is not in proper form and asks for proof of the consumers' allegations.

HAMILTON GAS FRANCHISE

CHATHAM, Ontario, Apr. 29. — The court of appeals at Toronto has rendered a decision maintaining the right of Dominion Natural Gas Co. of Buffalo to construct and maintain its gas lines in that part of the city of Hamilton, Ontario, originally in Barton Township. United Gas & Fuel Co., subsidiary of Union Gas Co., holds a franchise for the city of Hamilton, and disputed the right of the Dominion company to operate in the area annexed from Barton Township, for which the Dominion company originally held a franchise. Litigation has been in progress since 1931 when the city of Hamilton granted an exclusive franchise to United Gas & Fuel Co. The decision may be further appealed.

PERSONAL PARAGRAPHS

John D. Rockefeller is planning to depart from his Ormond Beach, Fla., estate for his summer home at Pocantico Hills, N. Y.

• • •

J. A. Jameson and T. MacDonald, of the London office of Anglo-Persian Oil Company, Ltd., are now on an inspection trip in Persia.

• • •

C. J. Barstow and 10 men in the accounting department of Stanolind Oil & Gas Company at Fort Worth, Tex., will move to Tulsa.

• • •

J. H. Muir, consulting geologist, addressed the Fort Worth, Tex., Geological Society on the "Occurrence of Natural Gas in Mexican Oil Fields."

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W. A. Yeager, in charge of the Midland, Tex., office for the Sinclair Prairie Oil Company, has been elected secretary of the Midland School Board.

• • •

L. Thomas, geologist for the Pure Oil Company, Fort Worth, Tex., has been in Chicago for some time arranging a geological exhibit for the World's Fair.

• • •

B. F. Armstrong has been appointed Tulsa representative for the Vulcan Steel Tank Company. Mr. Armstrong was formerly with the Southwestern Engineering Corporation in Tulsa.

• • •

H. N. Drane, vice president of the Drane Tank Company, Tulsa, has been making a business trip through West Texas with F. M. Drane of Fort Worth, Tex., president of the company.

• • •

Joe Gordon, formerly petroleum engineer for Black, Sivalls & Bryson, Inc., will sail from Miami, Fla., May 6 to Lagonillas, 40 miles out of Maracaibo, Venezuela, where he will be connected with the Lago Petroleum Corporation.

• • •

E. D. Coady, formerly with the Prairie Oil & Gas Company, is now connected with the Danciger Oil & Refining Company with offices in Fort Worth, Tex. Sam Semple, formerly with the Prairie company, is also with Danciger, located in East Texas.

• • •

Fifty-one employes and officials of the Pure Oil Pipe Line Company gave a farewell dinner in Mount Pleasant, Mich., for M. I. Deuel, veteran oil man, following his recent retirement from the position of superintendent of the Michigan division of the Pure Oil Pipe Line Company.

• • •

R. Van A. Mills, of Ponca City, Okla., chief of the engineering department of the Continental Oil Company and president and general manager of the Hudson's Bay Oil Company of Canada, a Continental Oil Company subsidiary, is visiting fields in Texas, first going to the Big Lake Field, Reagan County, where the Continental company has large holdings.

• • •

At the annual meeting of Associated Oil Company, subsidiary of Tide Water Associated Oil Company, four additional directors were elected: Charles N. Cadman, president of Pacific Coast Aggregates, Inc.; John F. Forbes, director of Green Investment Company, former partner in the accounting firm of Haskell & Sells; H. P. Grimm, president of Pacific Western Oil Company; and J. A. McCarthy, vice president of Pacific Portland Cement Company.

• • •

W. G. Heltzel, general superintendent; J. B. Harshman, master mechanic, and L. E. Jennings of the safety department, all with the Stanolind Pipe Line Company, Tulsa, have been making a complete trip over the entire Texas system of the company, visiting all main line and gathering stations, and other points along the line. J. J. Hill, in charge of all main line stations, and O. H. Powell, superintendent at Fort Worth, Tex., accompanied the Tulsa men on the trip.

Earl C. Hollingsworth, of the Standard Oil Company of New Jersey, arrived at New York last week from Buenos Aires.

• • •

John T. MacPhie, of the Asiatic Petroleum Company, accompanied by Mrs. MacPhie, arrived at New York last week from Europe.

• • •

G. B. Morris, general manager of the Bradford Motor Works, Bradford, Pa., was in Tulsa during the past week. He was accompanied by his son.

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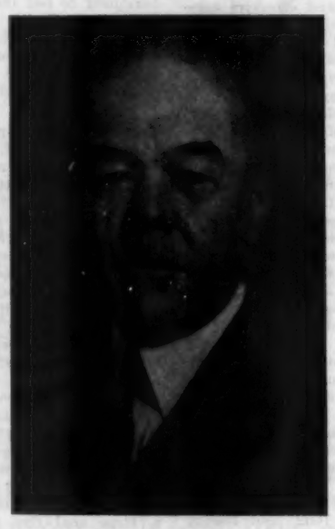
Charles Piez, chairman of the board of the Link-Belt Company, has retired from active duties due to ill health. He will remain chairman of the board.

Men of the Industry



HERBERT G. NAYLOR

Herbert G. Naylor, assistant general manager in charge of the bulk sales division of the Standard Oil Company (Indiana), with headquarters in Chicago, has been identified with the oil business for 45 years. On November 5, 1888, he entered the service of the Continental Oil Company, then a part of the Standard Oil organization. The Florence Field in Colorado at that time was one of the most important in the West.

Mr. Naylor resigned as traffic manager for the company on June 30, 1912, to join the Midwest Oil Company, which was beginning its remarkable career. As traffic manager he started in to open up markets for the young company which was to grow with the development of Salt Creek. Before he could begin moving oil from the new pool, it was necessary to have rates established and trade channels developed, and under his direction the market for Salt Creek crude products gradually came into its own.

The Midwest Refining Company was formed in 1914 to take over the Casper refinery, to which was added the Greybull refinery and subsequently a new plant at Laramie. Mr. Naylor was made an officer and director of the new company with the title of traffic and sales manager. In 1923 he was made a vice president, which office he continued to hold until the Midwest became an integral part recently of the parent company, the Standard Oil Company (Indiana). With this change he went to Chicago to assume his present office.

N. J. Allen, assistant secretary and treasurer, has been elected secretary of the Lincoln Petroleum Company.

• • •

E. T. Gatrell, Tulsa, general superintendent of pipe lines for the Gulf Pipe Line Company in Oklahoma and Pennsylvania, spent part of last week in Houston, Tex.

• • •

W. L. Connelly, chairman of the board, Sinclair Prairie Oil Company, Tulsa, is in Santa Barbara, Calif., for a short visit with Mrs. Connelly, who is spending several months in California.

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T. J. Prehoda, Los Angeles, Calif., drilling superintendent for the Barnsdall Oil Company of California, has gone to Thibodaux, La., to direct the drilling of a test well in unproven territory near there.

• • •

George Buchanan, chief geologist for the Barnsdall Oil Company, has returned to his headquarters in Houston, Tex., from Louisiana, where his company is starting development operations near Thibodaux.

• • •

Dale M. Nix left New York for Persia. Mr. Nix was formerly petroleum engineer for the California Company in the Yates Pool, West Texas, and while there was an active member of the Yates Pool engineering committee.

• • •

H. D. Sheldon, formerly vice president and secretary of the Petroleum Corporation of America, has been elected president and a member of the board of directors and of the executive committee, succeeding the late John H. Markham, Jr. J. Paul Getty has been elected a director.

• • •

Frank Champion, general sales manager, oil tool division, Byron Jackson Company, is at present on an extended trip throughout the Mid-Continent and Gulf Coast Fields, and plans to visit the Pennsylvania fields and the export office of Byron Jackson Company in New York City, for a general survey of the industry. He will probably return to headquarters in Los Angeles, Calif., about May 15.

• • •

Brokaw, Dixon, Garner & McKee, engineers and geologists, of 120 Broadway, New York, having transferred the office which they have maintained for the past six years at Shreveport, La., to the Gulf Building at Houston, Tex., Dugald Gordon, who has been in charge of the Shreveport offices since they were opened, and Mrs. Gordon, moved to Houston May 1. He served for some time as secretary of the Shreveport Geological Society.

• • •

B. H. van der Linden, head of the production department of the Royal Dutch-Shell group, The Hague, Holland, who is in this country inspecting Shell properties, arrived in Houston, Tex., April 27. T. E. Swigart, general vice president, of the Shell Petroleum Corporation, and now in charge of the company's Texas Gulf area, with offices in Houston, had a college vacation job with a geological party under Mr. van der Linden's direction 17 years ago, when the latter was chief geologist and production manager for the Shell in California.

• • •

Mr. and Mrs. Thomas F. Connelley, of Bradford, Pa., celebrated their golden wedding anniversary on Monday, April 24. Ernest L. Connelley, Tulsa oil man, and Donald C. Connelley, with the Indian Territory Illuminating Oil Company at Bartlesville, Okla., sons of Mr. and Mrs. Connelley, were present along with other relatives, at an anniversary dinner given in the Connelley residence in Bradford. Thomas F. Connelley was a member of the pioneer firm of Connelley Brothers, boiler manufacturers, later engaging in the production of oil and the manufacture of wood alcohol and other products from wood.

TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with

marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a dicussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Paraffin Oil Is Term Applied to Different Oils

What classes of oils are included within the term paraffin oil as that term is used in the trade and from a chemist's standpoint? To what use or uses are such paraffin oils put? What is the largest single use and what percentage of the whole does it represent?—S. S. C.

The precise meaning of the term "paraffin oil" varies with the conditions under which it is used; that is, the exact meaning is peculiar to the specific industry or use. A similar condition exists with respect to many substances. For example, soda does not necessarily indicate a definite chemical compound when it is used by the glass-maker, the petroleum refiner, and the physician. Unfortunately, no representative society within the petroleum industry has adopted a standard definition for paraffin oil.

There is some difference in the meaning as used in the petroleum industry. The producer refers to a paraffin oil when indicating a crude oil which has a paraffin base; the refiner may mean the product draining from the wax press, also known as pressed distillate; the marketer usually means a lubricating oil which is composed of paraffin hydrocarbons, but many distributors use the term to denote the white oil. The only definite meaning is that adopted by the pharmaceutical authorities in the Latin paraffinum liquidum, commonly expressed as paraffin oil, which is the white medicinal oil. The white medicinal oil is more fully refined than the white oil known as technical grade, used in the arts.

The earliest use seems to have originated with James Young, who in 1848 established a plant in Derbyshire to refine petroleum from a spring found in connection with coal. The supply was small so Young, reasoning that the oil had been distilled from coal, experimented to form an artificial petroleum by distilling coal at low temperatures. He patented the resulting process in 1850 and a refinery was erected that year at Bathgate. A market was created for the principal product, lamp oil, which he called paraffin oil, and this name, or simply paraffin, is retained to the present time in some parts of England, to mean the kerosene oil used for illuminating purposes, whether derived from shale or petroleum.

Paraffin oil is considered by the chemist to be any oil the composition of which is essentially paraffin hydrocarbons of the open chain series. The chemist may object to the use of paraffin oil being applied to white oil because some of the white oils contain no paraffin but are made up of saturated naphthenic compounds. The naphthenes have properties similar to the paraffins but most of them are cyclohexane derivatives while the paraffins are derivatives of methane.

The paraffin oils of the lubricating grade constitute the largest group use, the total quantity produced at the refineries representing yields between 3 and 8 per cent for the United States on the basis of the petroleum refined.

While oil is a highly purified lubricating oil, the medicinal grade being free from color, taste and odor. The important uses of this oil include: Medical, as an internal lubricant; numerous pharmaceutical purposes; cosmetics; sterilizing medium for instruments in hospitals, etc.; preservation of specimens; the preparation of dietic foods. The high grade oil is also used for lubricating purposes in connection with the manufacture of candy, bread, and pastry.

The technical white oil is adapted for use in the textile industry, especially when making the finer grades of textiles; in the rayon plants, lace making and other delicate weaving where a stainless oil is an advantage.

Because of its high purity and excellent lubricating properties it is used for lubricating delicate machinery and scientific instruments.

There are no reports available showing the percentage distribution of the several grades of paraffin oil in the industries.

Use of Iron Carbonyl as Knock Inhibitor in Motor Fuels

I would be interested in getting any information you may have regarding the use of iron carbonyl as an antiknock compound in gasoline? —R. A. T.

The preparation of iron carbonyl is a development of the Baden Aniline and Soda Works, Ludwigshafen, Germany. It is the pentacarbonyl, $Fe(CO)_5$, a yellowish red, heavy liquid, specific gravity 1.45, which melts at 6° F. and boils at 218° F. It is readily miscible with petroleum liquids. When mixed with an equal volume of kerosene it forms the liquid known as motyl. The mixture of a half gallon of motyl in 100 gallons of gasoline is sold in Germany under the name Motalin as an antiknock motor fuel.

There are several objections to the use of iron carbonyl in motor fuel. Some of these may be mentioned. The compound is not stable to light, sunshine causes decomposition which results in the separation of golden yellow crystals; however, the chemical may be stored in the dark without changing. The most objectionable property of iron carbonyl is its tendency to cause the formation of iron oxide on the plugs which eventually cause shorting. This objectionable feature is controlled in the case of ethyl lead by the presence of ethylene dibromide, which keeps the points, valve seats and stems clean and causes the lead to be carried away with the exhaust. The monochlornaphthalene, "Halowax oil," also used with ethyl lead, acts to keep the valve stems lubricated and to prevent sticking and burning. Similar substances have not been discovered for use in iron carbonyl.

With benzol as unity the relative effectiveness of iron carbonyl, by volume, is 250, or about half that of ethyl lead.

So far as we are informed, we do not know of iron carbonyl being distributed in the United States for use as an antiknock material.

Schaefer Prone Pressure Method of Artificial Respiration

Mention is made in the article by J. L. Risinger, in The Oil and Gas Journal, February 9, 1933, page 14, of the Schaefer prone pressure method of artificial respiration. Could you give us some exact information about this method?—M. H.

Do not wait to loosen the victim's clothing. An assistant may remove any tightness at neck, chest and waist and provide, if possible, blankets, or any warming device about the body of the victim.

Immediately place the victim face downward with head to one side. Remove foreign bodies from the person's mouth and see that the tongue is forward. Extend both arms up above head with one hand under face. Kneel, straddling the person's thighs and facing his head. Place hands over lower ribs, one on each side of backbone and 2 to 4 inches apart and fingers spread out, the ends of the little fingers reaching just below the last rib. With arms held straight, swing forward slowly so that the weight of your body is gradually brought to bear on the person. This operation, which should take about two seconds, must not be violent. The lower part of the chest and also the abdomen are thus compressed and air is forced out of the lungs. Now immediately swing back slowly to remove the pressure, but leave your hands in place, thus returning to upright position. Through their elasticity, the patient's chest walls expand and his lungs are thus supplied with fresh air. After two seconds swing forward and repeat deliberately about 12 to 15 times a minute, the double movement causing a complete respiration in about four to five seconds. If a timepiece is not available, say aloud, at normal speaking rate, during the pressure period "out goes the bad air," then during the period of release "in comes the good."

Artificial respiration should be applied for at least an hour and a half. The U. S. Life Saving Service continues artificial respiration for four hours, if necessary.

The Schaefer or prone pressure method of artificial respiration is now generally regarded as the best. The old Sylvester method is reported to have an efficiency of 175 c.c. air volume expressed, against 520 c.c. expressed by the Schaefer method, for each pressure, which at 12 times per minute would give a total of 6,240 c.c. per minute.

References: The American Red Cross Abridged Text Book on First Aid, third edition, p. 125; U. S. Bureau of Mines Manual of First Aid Instruction for Miners, p. 35.

Relation of Inspection Tests to Stability of Motor Oil

We are desirous of securing data showing whether or not there is a definite correlation among the flash and fire of an oil, its Cadillac distillation test and its rate of dissipation in automotive use? Any information you may have or references will be appreciated.—L. A. C.

When the properties of lubricating oils that are used in the automotive industry are studied in comparison with service data, it is clear that certain physical characteristics, as shown by the well-known inspection tests, have no bearing on stability. Lubricating oils are distillates obtained at high temperatures and consequently should not contain any products that would flash or ignite at a low temperature. The flashpoint is widely employed as an indication of a possible fire hazard, especially applied for inspecting kerosene and other burning oils that may contain enough of the more volatile products to cause the oil to flash at a temperature too low for safety under the conditions of use. The flash temperature of lubricating oils is usually above 275° F., and numerous lubricating oils flash above 400° F., so there can be no question of danger when the temperature of the crankcase is well below 200° F. The firepoint is a related property and the same considerations apply.

The lubricating oil used in an automobile engine does undergo some change, mostly contamination by naphtha, dust, metallic particles and water. These are much more serious than any change that may take place in the structure of the lubricating oil.

Some oil may be burned, if it enters the cylinders, with the resulting formation of carbon and sludge. Experiments have demonstrated that the percentage of actual disintegration in this way is very low under good mechanical conditions of the motor.

The distillation test serves to show the nature of the oil. If, for example, a heavy lubricating oil were blended with a very light nonviscous distillate, this would be detected by the distillation tests also, the flash and fire tests. A series of distillates will enable one to determine, by gravity and viscosity tests, the grade of oils making up any blend. The nature of the residue from the first distillation will indicate the type of oil, as asphalt and paraffin.

Flash and distillation data will serve to determine in a general way the heat-resisting qualities of an oil. This may be important where selecting a lubricating oil for high temperature duty but can be of little value when considering oils for motor lubrication.

See U. S. Bureau of Mines T. P. 500, 1931, "Relationship Between Volatility and Consumption of Lubricating Oils in Internal Combustion Engines," by Wade and Foster.

Significance of Tests of Petroleum Products, Proceedings American Society for Testing Materials, Vol. 28, Part 1, 1928.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

"Dry-Hole" Method Used With Success in Passing Gas Sand

I wonder if I can get some suggestions from you that might be helpful in this district, where we use cable tools altogether in drilling. I have encountered much difficulty in several of my wells in drilling through a gas sand. I suppose rotary tools would solve the problem, but that would be an expensive way of meeting it. It seems as though it should be possible to get around this difficulty some other way.—T. N. I.

The trouble to which you refer was encountered during the drilling of the Cushing, Okla., Field, and it was overcome by the use of mud fluid. The method, in principle, is a variation of the cable-tool system in which water is used to maintain a pressure in the well sufficient to prevent caving and to shut out gas and underground waters. It is described as follows by Alfred G. Heggem:

"Briefly stated, water is forced down the inside of the casing during drilling and returns to the surface on the outside of the casing, maintaining a continuous upward moving current of water between the casing and the walls of the hole that will force out any material that would otherwise tend to lodge against the casing and cause "freezing."

"By mixing clay with the water that is being circulated, a portion of the clay is deposited on the walls, forming an impervious covering that protects the walls from washing and caving, and seals off gas and water sands.

"The advantage of the system lies in the fact that caves, gas and water, may all be sealed off by the clay, and casing can be carried to a greater depth. Therefore, greater depths can be successfully reached and less casing is required than in ordinary wells.

"A distinct advantage is that all sands are protected as rapidly as encountered and there is no wasting of gas or injury to the sands. Fresh water and salt water are sealed off in their beds as found, and there is no contamination of water supply nor injury to minerals, the recovery of which, at some future time, may be desirable.

"This system may be applied to any standard cable tool rig, but to secure the best results a better and stronger rig is desirable to permit the ready handling of long strings of heavy casing.

"Before building the derrick, sump holes should be dug on the side of the derrick location and the earth removed may be placed as a foundation for the engine and belt houses. These sump holes should be three in number and should be about 4 feet deep by 12 feet wide and 24 feet long. They should be connected by a sluice box provided with a gate to control the flow from the two outside sumps to the inner one.

"The pump suction should be connected to the central sump, while the circulation returns should connect to one outside sump, and a trough under the derrick floor should convey the sand pumpings to the other outside sump, thus permitting the driller at all times to select the most suitable mud for circulation. A cellar about 4 feet deep and 6 feet square should be dug in the center of the derrick location and a joint of 8-inch pipe should be laid to drain from the bottom of the cellar to the sump hole. This drain pipe is recommended in preference to a ditch, in that it does not cut away or interfere with the stability of the derrick foundation.

"Heavy corner foundations should be laid for the derrick and the derrick mud sills should be about 5 feet above the ground, giving, in effect, a 10-foot cellar.

"The derrick should be at least 88 feet high with 20-foot base. The floor should be extended 10 feet on the ladder side to provide room for pump house. The crown block should carry not less than four casing pulleys. A calf wheel is set in the derrick and is best operated by a chain which is driven by a sprocket wheel on the crankshaft. This sprocket wheel is controlled by a clutch.

"Owing to the great depth and diameter of holes drilled by this process, it is desirable to use heavy rig irons and the writer is of the opinion that 6-inch irons should be used where it is desired to exceed depths of 3,000 feet.

"In addition to the regular calf wheel rig, the circulating outfit consists of two pumps suitable for handling mud fluid, and a circulating head with hose connections to the pumps."

Swabbing Advised Only to Get Oil Quickly Regardless of Cost

Is there any point at which it is more profitable to produce a well by swabbing than to produce it by pumping? Is it possible to say how much more oil (proportionately) can be obtained by swabbing than can be obtained by other mechanical means where conditions for the use of the swab are at their best?—H. T. T.

Cost is what must determine when to swab a well and when to produce it by some other method. Swabbing is perhaps the most expensive means of producing oil mechanically. It is hard on wire line, bullwheels, bullropes, belting, sheaves and other equipment around the rig as well as requiring excessive power. There are important uses for the swab in the oil field, but except under unusual conditions the lifting of oil from a well is not among them.

Because of the methods used in swabbing excessive strains are exerted on engine parts, and the ordinary type of steam engine is overloaded during the period of acceleration. These things have been responsible for the virtual abandonment of the practice of producing wells by swabbing, but perhaps the most important factor has been the introduction of proration, which, by limiting the quantity of oil a well may produce, automatically removes the value of any device designed to accelerate production. You may have in mind the swabbing methods practiced in former years in many flush fields, when the producer's main interest centered in getting all the oil possible in the shortest possible time, with the attendant expense as a minor consideration. You evidently are thinking of the swab simply as an appliance for producing oil as compared with other appliances for producing oil.

It is true that in many cases more oil has been produced by swabbing than could have been produced by other means, but with flush fields under restrictions as to daily rate of production there is no incentive to adopt methods capable of lifting more oil from the ground than the restrictions permit to be produced. As swabbing can be employed at any well for a limited time only and at the end of that period some other mechanical means must be used, it is safe to say that under the prevailing conditions of restricted production some method other than swabbing will be chosen as soon as it is necessary to produce a well by mechanical means.

Why Was It Called That?

GAS BARREL

Use of gas as fuel in pumping oil wells was a precarious undertaking when first adopted. Earliest trials of gas in this way were in 1862 at wells along Oil Creek in Pennsylvania. The gas first was collected in an oil barrel, one pipe leading from the well to the barrel and another from the barrel to the boiler. Barrels put to this use were called "gas barrels." Many fires were started by the flame running back to the barrel when the pressure was low and exploding it. In one case a pumper at Rouseville, near Oil City, Pa., was sitting on the head of a gas barrel when such an accident occurred. He was killed instantly.

Estimating Life and Value of a Producing Oil Property

To what extent do the character and thickness of the producing formation determine the probable life and the value of an oil property? Is there any recognized rule concerning the time in which an oil-producing property should be expected to pay back to the buyer the amount of money which he paid for it?—R. E. O.

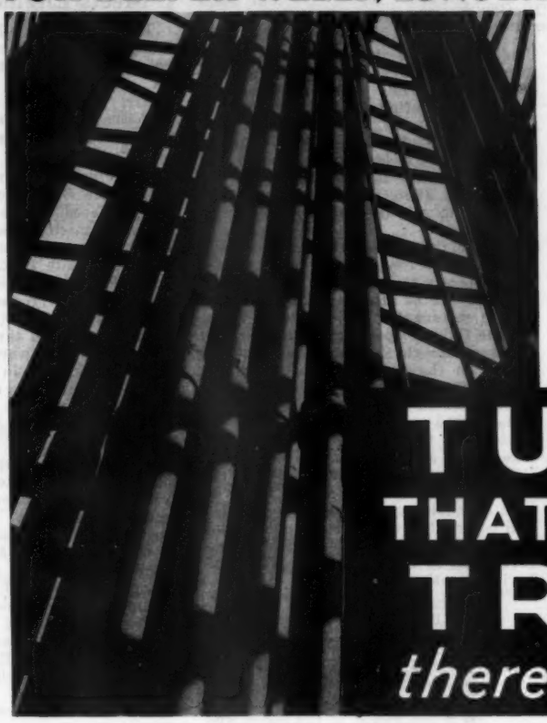
The points concerning which you seek information are discussed interestingly by Jo P. Cappeau in the chapter on appraisement of oil properties in the work on "The American Petroleum Industry," by Raymond F. Bacon and William A. Hamor. Mr. Cappeau says that where the area of the sand body, the thickness of the pay streaks, the quantity of oil produced in a given time and the rate of decline in daily production can be determined on the property under examination or on adjoining properties a good basis may be had for estimating the probable life and value.

A thick body of sand in any horizon is to be desired, provided it is porous and contains one or more pay streaks. A pay streak, as you presumably understand, is that portion of a sand body which is sufficiently open or porous to contain oil and gas, the quantity of which is determined by the action of the well while drilling through the sand. In some horizons there are several pay streaks of both oil and gas in the same sand body, separated by harder or nonporous strata, yet forming a continuous body, clear of breaks of shale or slates. In the McDonald Pool of Pennsylvania and the Glenpool, Cushing and Healdton Fields of Oklahoma, pay, or producing, strata of 30 to 100 feet have been found. The pay streak in the Wilcox sand is 200 feet thick in the Oklahoma City Field. Such thicknesses are unusual, however, and the pay is more likely to be 1 to 10 feet thick in each well.

Uniformity in the sand levels and in the character and size of the wells is always desirable. Where a sample of the pay streak sand can be obtained its absorption or voids may be determined and its probable petroleum content estimated per cubic foot per acre. The petroleum from a formation containing an excess of lime generally contains sulphur in quantities detrimental to the value of the oil. Moreover, where lime predominates in the sand the wells in such a formation have either been very porous or broken by crevices, as in certain of the large wells in the Mexican fields.

A fresh production, that is, one from one to six months old, usually is expected to "pay out" in two years on the basis of the price of oil at the time. Somewhat older production may pay out in three years, and old settled production five or six years, depending on the location of the field, sand horizons and the possibilities of holding or increasing the production by drilling new wells, shooting or cleaning out old ones and the likelihood of higher prices for crude oil. A deduction, for fixing which there is no established rule, should be made to cover such contingencies as new fields being opened, increasing the general production and causing a decline in crude oil prices, or extraordinary losses that may occur, such as from fire or wind, fishing jobs or other accidents that are common in the oil field.

FOR DEEPER WELLS, LONGER STRINGS, HARDER SERVICE



TUBING THAT YOU CAN TRUST— *there is no weld!*

NATIONAL SEAMLESS PIPE

No weld—no long line of possible weakness. No chance, no dependence on the human element, no uncertainty of any kind need be allowed for, as affecting the uniform wall strength of NATIONAL A.P.I. External Upset Tubing. Pierced from a billet of solid steel, with equal transverse and longitudinal strength and uniformity, it is unsurpassed from a safety standpoint. The extra heavy ends put abundant strength where strength is needed and security where otherwise a long string might be vulnerable; severe bending stresses are distributed, crushing action of couplings is resisted, and wear is endured far beyond the possibilities of welded tubing. The result is longer and more assured usefulness. To avoid uncertainty and to guard against delay and loss through the use of ordinary tubing—specify NATIONAL Seamless—the tubing you can trust—it has no weld.

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NATIONAL SEAMLESS

PIERCED FROM SOLID BILLETS-NO WELDS

NEW AND IMPROVED EQUIPMENT

Fullest Contact of Vapors Gained in Heat Exchanger

A new and improved type of the Lummus high-pressure heat exchanger is announced by the Lummus Co., 50 Church Street, New York. The tube bundle comprises 10 elements formed of 2-inch tubes through which the liquid travels in parallel streams from the inlet to the outlet manifold. Each element includes 10 stands of tubes connected at the top by Elesco integral forged return bends and at the bottom by Elesco return bends with taper plug closures, making each element, in effect, a continuous tube over 200 feet long.

Both vapor and liquid connections are located in the lower shell section. By breaking one low-pressure circumferential shell joint the upper shell can be lifted free from the exchanger and the sectional enclosing baffles removed, exposing the tube bundle for external cleaning. The tube bundle of 2-inch tubes on 3-inch centers arranged on square pitch provides 1-inch clear space between tubes for ready cleaning. The spacing may be increased or decreased if desired. The low-pressure light-weight vapor head is dropped for access to the lower vapor space, exposing the bottom tube closures which can be removed for turbining the tubes. One or more elements can be removed from the bundle without disturbing the others.

This exchanger is designed for 1,500 pounds pressure on the liquid side, 150 pounds on the vapor side and temperatures up to 800° F. It can be furnished for any required temperature and pressure. Owing to the unusual flexibility of the arrangement no severe mechanical stresses can be imposed upon any part of the structure by temperature and pressure conditions. If highly corrosive oil or vapor is to be handled the entire heat exchanger can be made of chrome alloy.

The general direction of oil flow is against that of the vapor travel, six stands of each element being directly counterflow and four stands parallel flow. A center baffle provides two-pass vapor flow. Enclosing baffles within the upper shell surrounding the tube bundle form vapor passes of rectangular cross section with the tubes uniformly distributed. This provides uniform velocity of the vapor over the entire tube surface, giving maximum heat transfer with no chance for vapor short-circuiting.

The construction is designed to insure intimate contact of all the vapors at high velocity and low pressure drop for the most effective utilization of tube surface.

Blinker Shows Moisture Content in Few Seconds

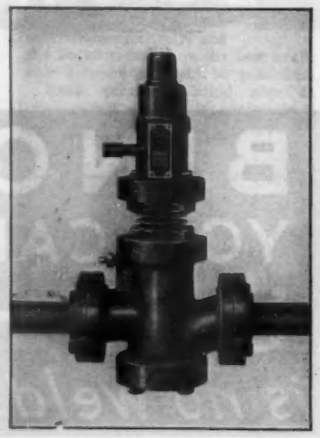
The blinker, an instrument developed by the Forest Products Laboratory of the U. S. Department of Agriculture for measuring moisture content of wood by electrical means, is manufactured by the American Instrument Co., 774 Girard Street, N.W., Washington, D. C. This instrument makes moisture measurements in seconds where the kiln method takes hours, and does not spoil the wood for future use. Measurements may be made directly on lumber in the yard or shed, without removing the sample from the stacks. The instrument is portable and self-contained.

The blinker will measure the moisture content of all domestic woods, between 7 per cent and 25 per cent, with an accuracy of plus or minus 1 per cent moisture. A descriptive bulletin may be obtained from the company.

Old Difficulties Removed by Area-Type Flow Meter

By LOUIS GESS
Flow Meter Engineer

In addition to its standard line of electrical and mechanical flow meters, the Brown Instrument Co. has developed the Brown area-type flow meter, to measure the flow of certain fluids, such as heavy oils, chemicals, etc., which in the past has been difficult due to the complex arrangement of piping and seals required between the meter body and pressure taps when using standard differential and orifice-type flow meters. Seals and auxiliary piping between the meter



Brown area-type flow meter

body and pressure taps are not required because the meter body is installed directly in the pipe line—see photograph.

Heavy oils must be heated in order to flow freely and the transmission of any pressure condition from such a fluid always entails difficulties due to the cooling of the fluid in the lines connecting the pressure chambers with the pressure measuring device. Various means have been tried for eliminating the difficulty of increased viscosity of the fluid when it enters the connecting lines. The most successful scheme prior to the introduction of the area-type flow meter has been that of paralleling the orifice-to-manometer pipes with other piping carrying low pressure steam in order to heat the oil in the manometer lines. The combination was usually insulated. While this scheme worked better than any other, it presented objectionable features due to the cost of installation, the cost of the steam and the long period of waiting required when the meter was started from "cold." All this is eliminated by the area-type meter because if the oil will flow through the pipe it will flow through the meter body.

When measuring the flow of chemicals a different problem presents itself. Here the usual difficulty is that the chemical fluid must be kept out of contact with the mercury or oil that is used in the meter body of the standard differential and orifice-type flow meters. This requires special seals, sealing mediums and complex piping arrangements. An installation such as this requires constant attention to avoid corrosion due to small leaks in the connecting tubing, to prevent the chemical from penetrating the sealing medium and attacking the working parts of the meter body and to make sure the chemical fluid does not become contaminated by having some of the sealing medium spill into the flow pipe caused by surges in the flow. Not requiring any seals, sealing mediums of complex auxiliary piping, the area-type flow meter adapts itself to this application of measuring the flow of chemical fluids.

Figure 1 shows the construction of the meter body which is of the piston and sleeve type. The flowing fluid enters the meter body at the entrance, passes under the piston, through the orifice, and is discharged.

As the fluid enters the meter body it strikes the bottom of the piston. Since the piston is free to slide vertically upward, it will be lifted, exposing a section of the rectangular orifice in the sleeve. As the fluid escapes through this orifice, it rises through the pulsation throttling orifice in the vacant section above the piston. This will exert a vertical downward force on the piston, which will be equal to the area of the piston times the pressure of the fluid of the downstream side of the orifice.

The piston will come to rest when the force exerted upward on the piston is exactly equal to the opposing force, which will occur when the orifice is opened sufficiently to make the downstream pressure equal to the pressure P_1 in the following equation:

$$PA = P_1A + W, \text{ or } P\text{-}P_1 = \frac{W}{A}$$

Where P = the upstream pressure
P_1 = the downstream pressure
A = the area of the piston
W = the weight of the piston and armature

It will be seen then that the difference between P and P_1 is a constant quantity, depending upon the weight of the plunger

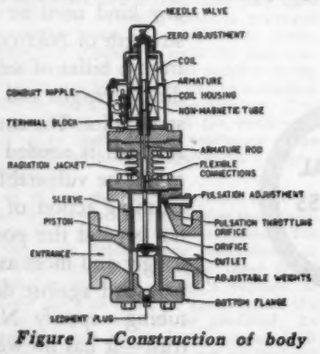


Figure 1—Construction of body

divided by the area of the piston. The meter, therefore, will operate to maintain a fixed pressure drop across a variable orifice.

The position of the piston is definitely measured by the inductance bridge system, as used in the Brown electric flow meter. As the armature travels vertically in the nonmagnetic tube, surrounded by a divided inductance coil, another armature in the receiving meter will assume corresponding positions which will be a measure of the area of orifice opening in the meter body, and hence the rate of flow.

The Brown area-type meter is calibrated to give equal increments in deflection for equal increments in flow, hence the scales and charts are evenly graduated. Since this is accomplished without the use of cams or specially shaped pressure chambers, the forces which shift the piston position are actually as great at small flows as at large flows.

Blaw-Knox Desuperheater Meets Engineers' Demands

The need for a self-contained and reliable automatic desuperheater led engineers of the Blaw-Knox Co., Pittsburgh, Pa., to develop the Blaw-Knox superheater, which the manufacturer says conforms to engineering requirements and is free from the defects to which engineers have objected.

The operating principle is based on that of the Blaw-Knox contactor, which was developed for use in other fields for intimately mixing gases and liquids. This is a simple and efficient method of effecting intimate contact of liquids and gases. Superheated steam enters the lower chamber, depresses the water level (feed water at steam temperature) and in passing upward through the contactor tube carries this water with it, mixing it with the steam in a swirling vortex or waterspout and thus bringing the steam and water into extremely intimate contact, completely desuperheating the steam.

To insure unvarying and complete desuperheating the water level, controlled by feed-water regulator, is maintained so that the quantity of water carried upward through the contactor tube is many times that required. Most of the excess water drains back to the lower chamber through water-sealed run-back tubes. Any moisture which may tend to be carried onward with the steam is removed with a Tracyfier (steam purifier), which eliminates not only all moisture or mist, but also all impurities from the outgoing steam.

The Blaw-Knox desuperheater is not affected by fluctuation in loads, total temperature or steam pressure. It gives complete desuperheating under all operating conditions with no carry-over of water. No power or operating mechanism is required. The static head necessary to circulate the water is obtained directly from the steam itself. A standard feed water regulator is the only auxiliary mechanism used in connection with the unit.

Characteristics of Colloidal Iron Oxide

An interesting bulletin completely describing the characteristics of colloidal iron oxide and embodying a number of valuable tables, has just been issued by the manufacturers of Colox, the mud-conditioning material. The bulletin gives details of the manufacture of iron oxide and discusses methods of mixing, proper volume and proportions to use and offers much other valuable data for reference of drilling contractors.

Engineers of the manufacturers of Colox have developed a chart therein, showing the comparative fluidity and pumpability of Colox in relation to muds made up of several exceptionally good field clays.

Methods of calculating mud content, determining specific gravity, how to increase the weight of drilling mud with iron oxide, how to increase the weight of drilling mud by adding clay per cubic foot and per gallon, also the relation between specific gravity, mud weights and pressure head, are presented in mathematical and table form. A large list of convenient equivalents and conversions is also shown.

A copy of the bulletin may be obtained by writing to the manufacturers of Colox, George S. Mepham & Co., East St. Louis, Ill., or C. K. Williams & Co., of California, Emeryville, Calif. Both companies operate under exclusive license under patents 1,575,944 and 1,575,945.

Summary of Operations in All Fields for March, 1933

SUMMARY OF ALL FIELDS
WELLS COMPLETED

	Comp.	Prod.	Dry	Gas
Eastern	69	294	14	18
Central Ohio	26	317	10	8
Lima	5	0	3	2
Indiana	14	85	3	6
Michigan	15	1,655	4	2
Kentucky	9	942	4	1
Illinois	1	0	1	0
Kansas	33	13,981	7	0
Oklahoma	80	10,198	25	6
North Central Texas	78	572	54	5
E. Central and E. Tex.	137	3,125	9	0
West Texas	18	1,116	5	0
Texas Panhandle	14	2,049	1	2
Texas Gulf Coast	154	186,151	39	1
Southwest Texas	86	6,837	53	3
La. Gulf Coast	23	5,060	15	0
North Louisiana	28	543	20	1
Arkansas	1	45	0	0
Mississippi	3	0	2	0
Montana	2	75	0	1
Colorado	9	0	8	1
New Mexico	7	31,156	1	0
Total March	811	259,201	278	57
Total February	848	231,155	306	76
Difference	37	28,046	28	19

RIGS AND WELLS DRILLING

	Rigs	Drlg.	Ttl.
Eastern	46	115	161
Central Ohio	17	56	73
Lima	1	23	24
Indiana	2	54	56
Michigan	49	82	131
Kentucky	2	45	47
Illinois	1	11	12
Kansas	27	88	115
Oklahoma	79	280	359
North Central Texas	39	131	170
E. Central and E. Tex.	50	111	161
West Texas	16	91	107
Texas Panhandle	10	39	49
Texas Gulf Coast	27	146	173
Southwest Texas	34	153	187
Louisiana Gulf Coast	7	28	35
North Louisiana	40	102	142
Arkansas	15	28	43
Mississippi	4	14	18
Alabama	0	4	4
East Texas gas area	1	19	20
Montana	4	30	34
Utah	6	15	15
Wyoming	8	58	66
Colorado	6	57	63
New Mexico	7	58	65
Total March	492	1,838	2,330
Total February	545	1,993	2,538
Difference	53	155	208

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

Oklahoma Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Atoka	1	5	0	0
Carter	2	1,280	0	0
Creek	13	3,932	5	2
Comanche	1	0	1	0
Hughes	7	1,175	0	1
Jefferson	3	175	0	0
Kay	1	39	0	0
Lincoln	2	706	0	0
Marshall	2	15	1	0
McIntosh	2	25	1	0
Muskogee	8	34	4	1
Noble	3	710	1	0
Okmulgee	6	55	3	1
Osage	4	646	0	0
Okfuskee	4	130	2	0
Payne	2	187	1	0
Pawnee	2	7	1	0
Pontotoc	5	735	1	1
Pottawatomie	2	118	0	0
Seminole	4	128	1	0
Stephens	3	6	2	0
Tulsa	2	30	1	0
Wagoner	1	60	0	0
Total March	80	10,198	25	6
Total February	81	12,169	30	4
Difference	1	1,971	5	2

Summary of Rigs and Wells Drilling

County—	Rigs	Drlg.	Ttl.
Alfalfa	0	1	1
Atoka	0	7	7
Blaine	0	1	1
Beckham	0	1	1
Caddo	0	6	6
Carter	2	8	10
Cleveland	1	0	1
Coal	0	2	2
Creek	11	37	48
Comanche	0	4	4
Cotton	0	1	1
Ellis	0	1	1
Grant	1	0	1
Garfield	0	3	3
Hughes	8	14	22
Jefferson	3	5	8
Kiowa	0	2	2
Kay	1	2	3
Kingfisher	1	0	1
Latimer	0	1	1
Lincoln	0	5	5
Logan	0	3	3
McIntosh	0	2	2
Marshall	0	3	3
Muskogee	0	10	10
Noble	4	7	11
Oklahoma	19	27	46
Osage	4	21	25
Okmulgee	3	17	20
Okfuskee	1	11	12
Payne	0	1	1
Pontotoc	1	17	18
Pittsburg	3	3	6
Pottawatomie	8	22	30
Pawnee	0	5	5
Roger Mills	0	2	2
Seminole	3	9	12
Stephens	2	7	9
Tillman	0	1	1
Tulsa	3	7	10
Wagoner	1	3	4
Washita	0	1	1
Total March	79	280	359
Total February	119	298	417
Difference	40	18	58

WELLS COMPLETED
ATOKA COUNTY

9-1-14 Croxton et al 6 5

Wells completed 1
Production 5

CARTER COUNTY

25-1s-3w Samedan Oil Co. 1 750
25-1s-3w Dapfine Oil Co. 1 530

Wells completed 2
Production 1280

CREEK COUNTY

5-18- 9 Samples et al 2 ..... dry
1-19- 9 Doke and Hughes 1 ..... dry
18-19- 9 Baileys 1 30
26-19- 9 J. E. Abbott 1 ..... dry
18-14- 9 C. G. Tibbens 1 2
26-18- 8 L. B. Jackson 3 1000
26-18- 8 L. B. Jackson 4 800
26-18- 8 J. E. Crosbie 2 1300
26-18- 8 J. E. Crosbie 3 800
2-18- 8 Gray et al 1 ..... dry
32-17-11 Michling 5 ..... gas
6-15- 7 Sinclair Prairie 2 ..... gas
18-15- 8 Lima Oil & Gas Co. 1 ..... dry

Wells completed 13
Production 3932
Dry 5
Gas 2
Gas production 12,750,009

COMANCHE COUNTY

19-2-9w Becker et al 1 ..... dry

Wells completed 1
Dry 1

HUGHES COUNTY

9-7-8 Mid-Cont. Pet. Corp. 2, 13 hrs. ... 290
16-7-8 Phillips Pet. Co. 2, 22 hrs. 221
10-7-8 Pringle & Marshall 1 284
10-7-8 Woffard Drlg. Co. 2 180
22-7-8 Mainard et al 1 75
22-7-8 Troup et al 1 25
11-7-8 Milam and Capshaw 2 ..... gas

Wells completed 7
Production 1175
Gas 1
Gas production 20,000,000

JEFFERSON COUNTY

3-7s-5w Farlyn Oil Co. 6 75
3-7s-5w Farlyn Oil Co. 5 65
30-6s-5w Bridwell Oil Co. 2 35

Wells completed 3
Production 175

KAY COUNTY

27-29-1 Continental Oil Co. 1 39

Wells completed 1
Production 39

LINCOLN COUNTY

12-15-6 Elm Oil Co. 1 346
9-13-6 Amerada Pet. Corp. 1 360

Wells completed 2
Production 706

MARSHALL COUNTY

31-7s-6 Kingston O. & G. Co. 2 15
26-6s-5 Lee Cross 1 ..... dry

Wells completed 2
Production 15
Dry 1

McINTOSH COUNTY

26- 9-16 J. E. Weihe 1 ..... dry
6-12-14 R. D. Pine 1 25

Wells completed 2
Production 25
Dry 1

MUSKOGEE COUNTY

6-14-15 J. L. Selby 1 20
29-15-16 A. Z. Oil Co. 1 4
34-16-15 Mack Drlg. Co. 2 ..... gas
1-14-18 Christie 3 ..... dry
9-15-18 Jolly et al 11 10
9-15-18 Finefield 3 ..... dry
9-15-18 Western Drlg. Co. ..... dry
13-13-15 Thompson and Jorden ..... dry

Wells completed 8
Production 34
Dry 4
Gas 1
Gas production 1,900,000

NOBLE COUNTY

15-23-2w Mid-Co. 13 ..... dry
8-20-2w Shell Pet. Corp. 1 385
33-20-2w Stanolind O. & G. et al 1 325

Wells completed 3
Production 710
Dry 1

OKMULGEE COUNTY

31-14-13 A. G. Haslett 1 20
14-14-14 Denton & Marshall 14 35
10-13-11 Kennedy et al 1 ..... dry
6-16-13 McEvoy et al 1 ..... gas
28-13-11 Clark and Rebold 4 ..... dry
6-14-15 J. L. Selby 11 ..... dry

Wells completed 6
Production 55
Dry 3
Gas 1
Gas production 6,000,000

OSAGE COUNTY

11-26- 6 The Texas Company 1 93
18-23-12 Silurian Oil Co. 59 5
12-21-11 Fields and Potts 4 30
5-23- 8 Continental Oil Co. 7 528

Wells completed 4
Production 646

OKFUSKEE COUNTY

25-10-11 Olean Pet. Co. 1 60
26-12-12 Eagle Picher 2 70
29-12- 9 National Investors Co. 1 ..... dry
34-11-11 Vivian Oil Co. 1 ..... dry

Wells completed 4
Production 139
Dry 2

PAYNE COUNTY

9-18-5 Pure Oil Co. 2 187
28-18-4 Amerada Pet. Corp. et al 1 ..... dry

Wells completed 2
Production 187
Dry 1

PAWNEE COUNTY

26-23-5 Deep Rock Oil Co. 1 ..... dry
18-20-9 J. Sample 1 7

Wells completed 2
Production 7
Dry 1

PONTOTOC COUNTY

28-5-5 I. T. I. O. Co. 2 90
30-7-2 W. A. Delaney 1 ..... gas
30-5-5 Lake Oil Co. 2 600
28-5-6 Harris & Hays 1 ..... dry
28-5-5 Benedum & Trees 1 45

Wells completed 5
Production 735
Dry 1
Gas 1
Gas production 30,000,000

POTTAWATOMIE COUNTY

3-7-4 Wellman 1 88
10-7-4 Seminole Supply Co. 1 30

Wells completed 2
Production 118

SEMINOLE COUNTY

24-7-6 Gypsy Oil Co. 1 18
21-8-8 Gypsy Oil Co. 1 ..... dry
17-9-7 Droppleman 1 60
20-9-6 Dickson Pet. Co. 1 50

Wells completed 4
Production 128
Dry 1

STEPHENS COUNTY

11-2 -8w Dun Marr Oil Co. 2 ..... dry
31-2s-4w McLaughlin 1 ..... dry
2-2s-8w G. L. Pace 12 6

Wells completed 3
Production 6
Dry 2

TULSA COUNTY

15-19-14 Lambert et al 1 ..... dry
17-19-14 W. D. Dickinson 2 30

Wells completed 2
Production 30
Dry 1

WAGONER COUNTY

4-15-18 Dunbar and Reed 4 60

Wells completed 1
Production 60

Kansas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Butler	1	55	1	0
Cowley	3	98	1	0
Chase	1	100	0	0
Ellsworth	5	433	1	0
Greenwood	4	68	2	0
Harvey	8	8,340	0	0
Reno	1	0	1	0
McPherson	9	4,217	1	0
Sedgwick	1	670	0	0
Total March	33	13,981	7	0
Total February	33	8,018	15	1
Difference	0	5,963	8	1

Summary of Rigs and Wells Drilling

County—	Rgs.	Dlg.	Ttl.
Barton	0	7	7
Butler	0	1	1
Cowley	1	5	6
Ellis	0	1	1
Ellsworth	1	4	5
Graham	0	1	1
Greenwood	1	5	6
Harvey	5	12	17
McPherson	14	30	44
Pratt	0	1	1
Rice	0	4	4
Reno	1	6	7
Rooks	1	0	1
Russell	0	2	2
Saline	0	1	1
Stafford	0	1	1
Sedgwick	0	4	4
Sumner	2	0	2
Trego	0	1	1
Total March	26	86	112
Total February	32	80	112
Difference	6	6	0

WELLS COMPLETED
BUTLER COUNTY

1-26- 4 Cosmic Oil Co. 53 55

Wells completed 1
Production 55

COWLEY COUNTY

27-32- 4 Deal O. & G. Co. 2 45
27-32- 4 T. M. Deal 1 50
32-32- 4 Roth & Farout 1 ..... dry

Wells completed 3
Production 95
Dry 1

CHASE COUNTY

36-22- 9 Polhamus & Smith 6 100

Wells completed 1
Production 100

ELLSWORTH COUNTY

24-17-10w Smith & Ash 1 193
14-14- 9w Bickford et al 1 ..... dry
23-17-10w Slick, Pryor & Lockhart 1 .. 65
7-17-10w Magnolia Pet. Co. 1 40
1-17-10w Sinclair Prairie Oil Co. 2 135

Wells completed 5
Production 433
Dry 1

GREENWOOD COUNTY

3-25-12 Reeser et al 1 ..... dry
8-25-13 Mendenhall et al 4 ..... dry
14-22-11 Empire O. & R. Co. 3 42
22-22-12 Theta Oil Co. 1 25

Wells completed 4
Production 68
Dry 2

HARVEY COUNTY

19-22-3w Lloyd, Study & Frost et al .. *500
17-22-3w F. Hollow et al 1 ..... †1690
19-22-3w Mabee 2 ..... ‡563
19-22-3w Mabee 3 ..... §275
19-22-3w Prod. & Ref. 1 250
20-22-3w W. C. McBride, Inc., 3 2400
20-22-3w W. C. McBride, Inc. 4 1400
4-22-3w Reeser et al 1 1262

Wells completed 8
Production 8340

*Six hours. †20 hours. ‡1¼ hours. §1 hour.

RENO COUNTY

21-26-8w Skelly Oil Co. 1 ..... dry

Wells completed 1
Dry 1

McPHERSON COUNTY

33-21-3w Mabee, Inc., et al 2 732
21-21-3w Rose Spring Oil Co. 2 240
7-20-1w T. Palmer et al 1 ..... dry
19-19-1w Daviess & Breadmore 3 260
21-21-3w All State Pet. Co. 3 25
16-21-3w Stanolind O. & G. Co. 4 474
36-19-2w Olson Oil Co. et al 2 85
35-19-3w Prunty Drlg. Co. 5 125
33-21-3w Mabee, Inc., et al 5 3276

Wells completed 9
Production 4217
Dry 1

SEDGWICK COUNTY

11-26-2 Aylward et al 1 670

Wells completed 1
Production 670

Panhandle Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Carson	2	505	0	1
Collingsworth	1	0	1	0
Gray	8	1,309	0	0
Hutchinson	2	160	0	1
Wheeler	1	75	0	0
Total March	14	2,049	1	2
Total February	12	1,939	3	1
Difference	2	110	2	1

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Carson	1	0	3	4
Gray	4	7	12	23
Hemphill	0	0	1	1
Hutchinson	4	1	4	9
Moore	0	1	2	3
Oldham	0	1	0	1
Roberts	0	0	1	1
Wheeler	1	4	2	7
Total March	10	14	25	49
Total February	7	19	28	57
Difference	3	5	3	8

WELLS COMPLETED
CARSON COUNTY

Gulf Prod. Co., No. 6 Cooper 505
Panhandle Ref. Co., No. 1 Kirby ..... gas

Completions 2
Initial production 505
Gas well 1

COLLINGSWORTH COUNTY

Kates et al, No. 1 Hickman ..... abd

Completions 1
Abandoned 1

GRAY COUNTY

Phillips Pet. Co., No. 1 Davidson 336
The Texas Company, No. 1 Gethings .. 115
Skelly Oil Co., No. 3-A Jackson 317
The Texas Company, No. 6 M. H. Davis (old well recompleted) 5
Tripplehorn, No. 1 Lovett 74
C. M. O'Chiltree et al, No. 1 Hughey .. 30
Stanolind Oil & Gas Co., No. 2 Palmer. 192
Quicksand Oil Co., No. 2 Chapman 250

Completions 8
Initial production 1309

HUTCHINSON COUNTY
Huber Pet. Co., No. 1 Johnson 160
Huber Pet. Co., No. 1 Works ..... gas

Completions 2
Gas wells 1

WHEELER COUNTY
Devore & Robinson, No. 1 Setler 75

Completions 1
Initial production 75

East Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Gregg	55	3,875	0	0
Henderson	1	0	1	0
Hill	1	0	1	0
Leon	2	0	2	0
Morris	1	0	1	0
Rusk	59	3,121	2	0
Smith	2	83	0	0
Upshur	13	476	0	0
Wood	2	0	2	0
Van Zandt	2	367	0	0
Total March	137	8,125	9	0
Total Feb.	175	9,509	16	1
Difference	38	1,384	7	1

Rigs and Wells Drilling

County—	Rigs	S.D	Drlg.	Ttl.
Anderson	0	2	0	2
Angelina	0	3	0	3
Bowie	0	2	0	2
Cherokee	3	1	1	5
Delta	0	1	0	1
Ellis	0	4	1	5
Fannin	0	1	0	1
Franklin	0	1	0	1
Freestone	0	0	1	1
Gregg	21	4	23	48
Henderson	1	2	0	3
Hill	0	0	1	1
Hopkins	1	2	1	4
Hunt	0	0	1	1
Kaufman	0	0	1	1
Lamar	0	1	0	1
Limestone	0	1	1	2
Morris	0	2	0	2
Navarro	0	1	0	1
Red River	1	2	0	3
Rusk	16	12	20	48
Smith	2	1	1	4
Upshur	1	4	7	12
Van Zandt	4	4	0	8
Wood	0	0	1	1
Total March	50	51	69	161
Total Feb.	68	69	104	241
Difference	18	18	44	80

WELLS COMPLETED

GREGG COUNTY
Byrd-Frost Oil Co.'s No. 5 Reppond, 1-in. tubing choke, 10 min. 15
Darby Pet. Co.'s No. 6 W. H. Richey, ¾-in. tubing choke, ¼ hr. 36
Gulf Prod. Co.'s No. 5 T. Clemmons, ¾-in. tubing choke 60
Humble Oil & Ref. Co.'s No. 30 W. R. Hughes, ¾-in. tubing choke 73
Jack T. Life's No. 1 B. Moore, ¾-in. tubing choke 79
Magnolia Pet. Co.'s No. 4 C. Jones, open tubing 132
Magnolia Pet. Co.'s No. 4 W. R. Nicholson, open tubing 124
Sun and Atlantic Oil & Prod. Co.'s No. 7 M. Thomas, tapered tubing, ¼ hr. ... 11
The Texas Co.'s No. 15 T. W. Lee, 1-in. tubing choke 90
Stedham and Thrasher's No. 1 B. D. Russell, 24 hrs. pumping 90
Madalyn Oil Co.'s No. 1 J. V. Rossen, open tubing 90
Sun Oil Co.'s No. 21 M. T. Cole, tapered tubing 46
E. A. Gaskill's No. 1 Godfrey, 1-inch open tubing, ¼ hr. 35
P. L. Hoffman's No. 3 Phillips, ¾-in. tubing choke 80
H. W. McGee's No. 3 M. O. Sheppard, open tubing, ½ hr. 60
Gulf Prod. Co.'s No. 28 Hilburn, ¾-in. tubing choke 80
Rhoads Drlg. Co.'s No. 6 Sabine River, 1-in. tubing choke, ½ hr. 30
The Texas Co.'s No. 11 M. T. Cole, open tubing 75
Tide Water Oil Co.'s No. 17 M. B. Hughey, open tubing, 10 min. 17
Tide Water Oil Co.'s No. 18 M. B. Hughey, open tubing, 10 min. 18
Amerada Pet. Corp.'s No. 9 I. R. Hearne, open tubing, ¼ hr. 19
Humble Oil & Ref. Co.'s No. 14 H. M. Lawrence, ¾-in. tubing 69
Magnolia Pet. Co.'s No. 11 H. Hampton, 1-in. tubing choke 100
Magnolia Pet. Co.'s No. 3 Magrill, open tubing 120
Magnolia Pet. Co.'s No. 6 Zeigler, open tubing 160
Stanolind Oil & Gas Co.'s No. 13-C Flewellen, open tubing, ¼ hr. 15
Daniels and Sheppard's No. 1 W. P. Crews, by heads 35
Gulf Prod. Co.'s No. 5 Wm. Clayton, ¾-in. tubing choke 70
J. T. Burlingame's No. 2 H. B. Thomas, flowing by heads, 24 hrs. 125
Magnolia Pet. Co.'s No. 12 L. A. Griffin, 1-in. tubing, ¼ hr. 20
Magnolia Pet. Co.'s No. 13 A. Hicks, open tubing 104
Magnolia Pet. Co.'s No. 13 A. Hicks, open tubing 95
Magnolia Pet. Co.'s No. 9 J. Radford, open tubing 120
Masda Oil Co.'s No. 1 J. A. King, ¾-in. tubing choke, ½ hr. 35
Mid-Field Oil Co.'s No. 3 Sample, open tubing 22
National Security Co.'s No. 3 Knowles, open tubing, 45 min. 100
Reserve Pet. Co.'s No. 1 A. Godfrey, open tubing 115
Rhoads Drlg. Co.'s No. 10 Sabine River, 1-in. tubing choke, ½ hr. 30
Atlantic Oil & Prod. Co.'s No. 8-B Barnswell, tapered tubing 64
Bons and Dillard Drlg. Co.'s No. 4 Moyers, through ¾-in. tubing choke 80
Gulf Prod. Co.'s No. 6 M. F. Barker, ¾-in. tubing choke 80
Humble Oil & Ref. Co.'s No. 21 W. R. Hughes, ¾-in. tubing 73
Humble Oil & Ref. Co.'s No. 13 H. M. Lawrence, ¾-in. 70
Humble Oil & Ref. Co.'s No. 5 W. C. Mackey, ½-in. tubing 25
B. K. Isaacs' No. 2-B Harris, 2-in. tubing 60
Magnolia Pet. Co.'s No. 5 J. H. Beavers, open tubing 198
Magnolia Pet. Co.'s No. 13 Everett, 1-in. tubing choke 160
Massie et al's No. 5 Orr, ¾-in. tubing choke, ¼ hr. 40
Ray Drlg. Co.'s No. 6 Tubbs, per day pumping 40
Stanolind Oil & Gas Co.'s No. 12-C Flewellen, open tubing, ¼ hr. 19
Yount Lee Oil Co.'s No. 5 J. G. McGrede, 11/16-in. tubing choke 73
E. M. Jones' No. 1 L. D. Crim, per day, pumping 30
Magnolia Pet. Co.'s No. 10 J. Radford, 1-in. tubing choke 105
Sun Oil Co.'s No. 3 A. G. Norton, open tubing 90
The Texas Co.'s No. 12 M. T. Cole, open tubing 85

Wells completed 55
Initial production 3878

HENDERSON COUNTY
American Liberty Oil Co.'s No. 1 H. Gregg ..... abd

Wells completed 1
Abandoned 1

HILL COUNTY
Graves and Rose's No. 2 Halderman... abd

Wells completed 1
Abandoned 1

LEON COUNTY
Shell-Penn, Black et al's No. 1 W. M. Phillips ..... abd
J. Sheffler et al's No. 1 W. R. Thompson ..... abd

Wells completed 2
Abandoned 2

MORRIS COUNTY
Burkhalter's No. 1 Staggers ..... abd

Wells completed 1
Abandoned 1

RUSK COUNTY
Daniels and Scott's No. 1 J. R. Irion, ¾-in. tubing choke, 40 min. 37
Gulf Prod. Co.'s No. 15-C C. E. Christian, ¾-in. tubing choke 100
Gulf Prod. Co.'s No. 8 Sexton, ¾-in. tubing choke 60
Humble Oil & Ref. Co.'s No. 67 Crim, ¾-in. tubing choke 85
Humble Oil & Ref. Co.'s No. 21-A S. S. Laird, ¾-in. tubing 45
Humble Oil & Ref. Co.'s No. 14-B H. Sexton, ¾-in. tubing choke 60
Humble Oil & Ref. Co.'s No. 18-B H. Sexton, ¾-in. tubing choke 75
John Menke's No. 1 C. F. Bradbury, flowing by heads, open casing, per day 20
Olsen Bros. and Johnson's No. 9 Powers, open tubing, ½ hr. 65
Southern Oil & Ref. Co.'s No. 5 L&G.N., open tubing, ½ hr. 30
Gulf Prod. Co.'s No. 3 O. R. Baton, open tubing 50
Casey Oil Co.'s No. 1-B E. B. Alford... abd
Devonian Oil Co.'s No. 3 W. O. Alford, ¾-in. tubing choke, ½ hr. 35
Gulf Prod. Co.'s No. 20 C. C. Turner, ¾-in. tubing choke 80
Humble Oil & Ref. Co.'s No. 8-C Ida Holt, ¾-in. tubing choke 70
Humble Oil & Ref. Co.'s No. 5 Jones-Fuller, ¾-in. tubing, ½ hr. 30
The Texas Co.'s No. 5 Stone, ¾-in. tubing choke 50
Aston-Ellis Corp.'s No. 1 Neal Cooper, pumping, 4 hrs. 30
Gulf Prod. Co.'s No. 8 C. E. Christian, ¾-in. tubing choke 70
Humble Oil & Ref. Co.'s No. 66 Crim, ¾-in. tubing choke 85
Gulf Prod. Co.'s No. 9 J. W. Shaw, ¾-in. tubing choke 90
Humble Oil & Ref. Co.'s No. 11 J. B. Box, ¾-in. tubing choke, ½ hr. 40
Humble Oil & Ref. Co.'s No. 10 J. E. Glover, ¾-in. tubing 85
Humble Oil & Ref. Co.'s No. 9-C Ida Holt, ¾-in. tubing, ½ hr. 30
Humble Oil & Ref. Co.'s No. 33-A Kangerga, ¾-in. tubing, ½ hr. 25
Hunt Prod. Co.'s No. T-D Bradford, pumping 5 hrs. 40
McMahon's No. 3 Joe Lee, open 2-in. tubing, ½ hr. 40
Mid-Kansas Oil & Gas Co.'s No. 9 Kangerga, 2-in. lead, ¼ hr. 23
Mid-Kansas Oil & Gas Co.'s No. 6 Jim Lunsford, 2-in. lead, ¼ hr. 19
Overton Ref. Co.'s No. 1 Church Lot, open tubing, ½ hr. 75
Sun Oil Co.'s No. 6 Jeff Hendon, 2-in. tubing 25
Humble Oil & Ref. Co.'s No. 65 L. D. Crim, ¾-in. tubing 75
David Donoghue's No. 2 Goforth, 2-in. open tubing, ½ hr. 100
Humble Oil & Ref. Co.'s No. 7-B Ida Holt, ¾-in. tubing, ½ hr. 75
Humble Oil & Ref. Co.'s No. 31 Kangerga, ¾-in. tubing, ½ hr. 32
Humble Oil & Ref. Co.'s No. 8-B Kangerga, ¾-in. tubing, ½ hr. 21
Humble Oil & Ref. Co.'s No. 18 J. W. Turner, ¾-in. tubing choke 62
Humble Oil & Ref. Co.'s No. 10 A. L. Walker, ¾-in. tubing choke, ½ hr. .. 30
Jenkins Bros.' No. 1 Daisy Bradford, 12 hrs. swabbing 31
Mid-Kansas Oil & Gas Co.'s No. 7 Kangerga, 2-in. lead 104
Mid-Kansas Oil & Gas Co.'s No. 10 J. F. Mason, 2-in. lead 83
Overton Ref. Co.'s No. 2 Maxwell, ¾-in. tubing choke, ½ hr. 75
Sinclair Prairie Oil Co.'s No. 8 F. B. Wilson, 2½-in. tubing, ¼ hr. 31
The Texas Co.'s No. 8 J. M. Price, open 2-in. tubing 79
Trico Oil Co.'s No. 1 D. Bradford, 2-in. tubing 10
Ward Oil Co.'s No. 15 Thrash, 2-in. tubing 80
Gulf Prod. Co.'s No. 2 H. Baton, ¾-in. tubing choke 43
Gulf Prod. Co.'s No. 2 W. Oten, ¾-in. tubing choke 42
Humble Oil & Ref. Co.'s No. 68 L. D. Crim, ¾-in. tubing 95
Humble Oil & Ref. Co.'s No. 1-B J. D. Florey, ¾-in. tubing 72
Humble Oil & Ref. Co.'s No. 20-A S. S. Laird, ¾-in. tubing 50
Humble Oil & Ref. Co.'s No. 19-B Sexton, open tubing 56
Kirby Pet. Co.'s No. 6 J. Reddie, 1-in. tubing 75
Droppleman Drlg. Co.'s No. 2 P. G. Warren, open 2-in. tubing, ½ hr. 50
Humble Oil & Ref. Co.'s No. 2 George Alexander ..... abd
Humble Oil & Ref. Co.'s No. 18-A Plowman, ¾-in. tubing, ½ hr. 32
Humble Oil & Ref. Co.'s No. 16 J. W. Turner, ¾-in. tubing 45
The Texas Co.'s No. 6 Stone, open 2-in. tubing 110

Wells completed 58
Initial production 3121
Abandoned 2

SMITH COUNTY
A. McCutcheon's No. 2 Temple Stone, open 2-in. tubing, ¼ hr. 18
Weaver-Crim Corp.'s No. 4 fee, 2-in. tubing 65

Wells completed 2
Initial production 83

UPSHUR COUNTY
Humble Oil & Ref. Co.'s No. 14 W. W. Holland, ¾-in. tubing choke 64
Humble Oil & Ref. Co.'s No. 7 J. M. Smith, 2-in. tubing choke, ½ hr. 11
Merrick Inc.'s No. 6 Nicholson, open tubing 110
Sun Oil Co.'s No. 13 Hargrave, tapered tubing 32
Humble Oil & Ref. Co.'s No. 19 L. D. Smith, open tubing, ¼ hr. 9
Lester and Duffield's No. 4 L. Graves, 1-in. tubing choke, ½ hr. 30
Magnolia Pet. Co.'s No. 8 N. W. Blackwell, 1-in. tubing choke 128
J. Z. Werby et al's No. 3 Read, open tubing, ¼ hr. 22
Clark and Cowden's No. 3 J. W. Free, open tubing 85
Humble Oil & Ref. Co.'s No. 6-B Eva O'Byrne, open tubing, ¼ hr. 15
F. W. Merrick, Inc.'s No. 7 W. R. Nicholson, ¾-in. tubing 65
Mudge Oil Co.'s No. 8 J. W. Free, open tubing 85
Steen Drlg. Co.'s No. 5 J. F. Phillips, open tubing, ¼ hr. 20

Wells completed 13
Initial production 676

WOOD COUNTY
DeGenther's No. 1 N. L. McLain ..... abd
Wood County Oil & Gas Co.'s No. 1 Guy Davis ..... abd

Wells completed 2
Abandoned 2

VAN ZANDT COUNTY
Pure Oil Co.'s No. 6 I. D. Miller, 24 hrs. through tubing 202
The Texas Co.'s No. 4 J. A. Bracken, 24 hrs. through tubing 165

Wells completed 2
Initial production 367

North Central Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Archer	11	25	10	0
Baylor	2	0	2	0
Brown	3	11	2	0
Clay	4	50	2	0
Callahan	7	0	6	1
Coleman	3	38	1	0
Eastland	2	0	2	0
Erath	1	0	0	1
Jack	6	48	5	0
Montague	1	0	1	0
Palo Pinto	8	60	4	2
Shackelford	7	11	5	0
Wichita	8	129	4	0
Wilbarger	1	15	0	0
Young	14	185	10	0
Total March	78	572	54	5
Total February	78	959	54	3
Difference	0	387	0	2

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Drlg.	Ttl.
Archer	10	6	12	28
Brown	2	6	0	8
Callahan	3	1	4	8
Clay	1	0	4	5
Coleman	0	2	4	6
Cooke	1	3	1	5
Eastland	0	1	8	9
Erath	1	1	0	2
Foard	0	0	1	1
Grayson	0	3	1	4
Jack	2	3	5	10
Johnson	0	3	0	3
Montague	0	0	2	2
Palo Pinto	1	6	6	13
Parker	0	3	0	3
Shackelford	6	3	7	16
Stephens	1	2	0	3
Tarrant	1	1	0	2
Throckmorton	2	1	1	4
Wichita	1	2	3	6
Wilbarger	1	1	1	3
Wise	0	1	1	2
Young	6	7	14	27
Total March	39	56	75	170
Total February	18	87	71	198
Difference	21	31	4	28

WELLS COMPLETED

ARCHER COUNTY
Bridwell Oil Co.'s No. 2 Abercrombie.. abd
Morris & Dunn's No. 1 E. T. Schroeder abd
C. P. Sheldon et al's No. 1 J. L. Prideaux ..... abd
D. L. Wolf's No. 2 R. D. Andrews .... abd
Fain & McGaha Oil Corp.'s No. 1 J. J. Perkins ..... abd
Rathke Oil Co.'s No. 1 W. Shropshire.. abd
W. B. Hailton's No. 2 I. Kard 25
E. S. McLaughlin's No. 1 Mrs. B. Garrett ..... abd
The Texas Company's No. 2 Scott .... abd
D. L. Wolf's No. 1 Andrews ..... abd
W. C. Young's No. 2 Foster ..... abd

Completions 11
Initial production 25
Abandoned 19

BAYLOR COUNTY
Consolidated Oil Co.'s No. 1 W. H. Portwood ..... abd
Moran Drlg. Co.'s No. 1 Portwood .... abd

Completions 2
Abandoned 2

BROWN COUNTY
H. P. Evans' No. 1 J. C. Martin ..... abd
Y. C. Oil Co. et al's No. 1 Cleveland .. abd
Green and Ice's No. 2-A Hamp Byler .. 11
George Nickle's No. 1 William Armstrong ..... abd

Completions 3
Initial production 11
Abandoned 2

CLAY COUNTY
Bell and Metzner's No. 1 Mrs. K. Engart ..... abd
Metzner and Gerard's No. 1 Thornberry 25
Metzner and Gerard's No. 2 Thornberry 25
Seitz Comegys, Seitz' No. 2 Luther Wright ..... abd

Completions 4
Initial production 50
Abandoned 2

CALLAHAN COUNTY
Wadsworth et al's No. 1 Hickman ..... abd
Gibson and Johnson's No. 1 Jackson ... abd
H. B. House et al's No. 4 Finley ..... gas
H. C. Sample's No. 1 Finley ..... abd
W. F. Snebold's No. 1 Cunningham .... abd
W. F. Stephenson's No. 1 J. C. Jones .... abd
Sweeney et al's No. 1 Cook ..... abd

Completions 7
Abandoned 6
Gas wells 1

COLEMAN COUNTY
Reeves and Riley's No. 2 M. F. Rude (old well recompleted) 18
Breck Oil Co.'s No. 6 Golson 20
J. I. Moore's No. 1 T. Landrum ..... abd

Completions 3
Initial production 38
Abandoned 1

EASTLAND COUNTY
Texas Pacific Coal & Oil Co.'s No. 1 Allison ..... abd
Scottish Petroleum Corp.'s No. 1 J. C. Harris ..... abd

Completions 2
Abandoned 2

ERATH COUNTY
R. K. Channell's No. 1 A. K. Wylie ... gas

Completions 1
Gas wells 1

JACK COUNTY
Owens and Greenwood's No. 1 Stewart. abd
Panhandle Ref. Co.'s No. 1 M. B. Cook 38
Root Drlg. Co.'s No. 1 Coleman-Leach.. 10
Brazos River Gas Co.'s No. 1 Rhodes.. abd
Kleiner and West's No. 1 Cantrell .... abd
McKee Drlg. Co.'s No. 1 Wallace ..... abd

Completions 6
Initial production 48
Abandoned 5

MONTAGUE COUNTY
Humble Oil & Ref. Co.'s No. 1 S. E. Cobb ..... abd

Completions 1
Abandoned 1

PALO PINTO COUNTY
Brazos River Gas Co.'s No. 4 Harrison. gas
Palo Pinto Oil & Gas Co.'s No. 1 Crocker gas
States Oil Corp.'s No. 1 Allen-Ritchie.. gas
Dark Valley Oil Co.'s No. 1 R. S. Dalton 60
Webb Dalton et al's No. 1 R. S. Dalton abd
Walker et al's No. 1 Steward hrs. .... gas
W. J. Wickins' No. 1 P. R. Thomas .... abd
W. J. Wickins' No. 1 Watson Bros. .... abd

Completions 8
Initial production 60
Gas wells 4
Abandoned 3

SHACKELFORD COUNTY
Carroll et al's No. 3 Clausell 6
J. R. Hart's No. 3 Schkede ..... abd
Walker et al's No. 3 Cox ..... abd
J. R. Hart's No. 2 Schkede ..... abd
Jones et al's No. 4 Dodson 5
Westex Oil Co.'s No. 3 Walker ..... abd
C. B. Welsh's No. 1 C. B. Snyder ..... abd

Completions 7
Initial production 11
Abandoned 5

WICHITA COUNTY
F. C. Baldwin & Bros.' No. 17 P. P. Longford ..... abd
R. R. Clark's No. 29 Bickley 20
Deep Oil Dev. Co.'s No. 1 First National Co. 96
W. H. Hannon's No. 1 Burnside 10
Morris and Dunn's No. 6 Sheldon ..... abd
O. J. Richardson's No. 3 Hines ..... abd
D. M. Ross' No. 1 Waggoner Bros. .... abd
S. H. Walton's No. 5 Gulf 3

Completions 8
Initial production 129
Abandoned 4

WILBARGER COUNTY
The Texas Company's No. 412 Waggoner 15

Completions 1
Initial production 15

YOUNG COUNTY
Cable Oil Co.'s No. 28 L. A. Snider .... abd
Hawkins and Gilmore's No. 1 George Garrett ..... abd
Helena Oil & Gas Co.'s No. 1 N. B. League ..... abd
Helena Oil & Gas Co.'s No. 1 G. R. Whiteley ..... abd
T. C. Lester's No. 2 F. O. Jones et al.. abd
L. Mollenkoph et al's No. 1 Jeffery 15
J. N. Wilson's No. 1 Senkel ..... abd
Worth Oil Co.'s No. 5-C G. Garrett 5
Worth Oil Co.'s No. 6-C G. Garrett .... abd
Sam C. Watson's No. 3 Loftin ..... abd
The Texas Company's No. 1 Clark .... abd
Wooten Reed et al's No. 4 Henson .... abd
Christie Bros.' No. 1 Mured 15
Continental Oil Co.'s No. 1 Baptist Church 150

Completions 14
Initial production 185
Abandoned 10

Southwest Texas Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drlg.	Ttl.
Hilldg	2	1,010	0	0	1	1	2
Pettus	1	20	0	0	0	0	0
Tuleta	1	0	0	1	0	0	0
Eckert	5	67	1	0	0	1	1
N. Gov. Wells	15	3,659	2	1	2	7	9
Sarnosa	1	1,000	0	0	1	1	2
Darst Creek.	1	0	1	0	0	0	0
Saxet	7	500	6	0	1	5	6
Rio Grande .	2	0	2	0	0	1	1
Los Olmos ..	2	0	2	0	0	5	5
Laurel	9	366	4	0	1	1	2
Escobas	3	160	1	0	0	3	3
Miscellaneous.	37	25	34	1	28	128	156
Total Mar..	86	6,837	53	3	34	153	187
Total Feb...	114	12,949	69	9	31	141	172
Difference .	28	6,112	16	6	3	12	15

WELLS COMPLETED

HILBIG POOL—BASTROP COUNTY
Friske, Humble Oil & Ref. Co. 1 960
Beck et al, Humble Oil & Ref. Co. 1.. 50
PETTUS POOL—BEE COUNTY
Fee, J. L. Mauldin 3 20
TULETA POOL—BEE COUNTY
Cox, The Texas Company 2 ..... gas
ECKERT POOL—BEXAR COUNTY
Gembler, D. C. Pegg 2 6
Gembler, Chas. P. Cartter 2 9
Gembler, D. C. Pegg 3 ..... abd
Brehm, F. H. Eckert & Son 3 12
Brehm, F. H. Eckert & Son 2 40
NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY
Hahl, Humble Oil & Ref. Co. 3 500
Hahl, Navarro Oil Co. 3 100
Hahl, Magnolia Pet. Co. A-8 360
Tuck-Johnson, Central Producers 6 .. 480
Allen, Magnolia Pet. Co. 6 176
Hahl, Navarro Oil Co. 2 176
Wendt, Southwest Drilling Co. 7 480
Freer, The Texas Company 5 480
Freer, The Texas Company 6 ..... gas
Bennett, San Diego Oil Corp. 2 480
Wright, R. B. Byrd 5 ..... abd
Wright, R. B. Byrd A-1 65
Allen, Magnolia Pet. Co. 5 192
Hahl, Navarro Oil Co. 1 200
Duval County Ranch Co., The Texas Company A-3 ..... abd
SARNOSA POOL—DUVAL COUNTY
Ruiz, Magnolia Pet. Co. 1 1000
DARST CREEK POOL—GUADALUPE COUNTY
Denman, John F. Camp 3 ..... abd
SAXET POOL—NUECES COUNTY
Smith, Gibson Oil Co. 1 ..... abd
Quiros, Shasta Oil Co. 1 ..... abd
Clark-Morgan, Texas Coast Oil Co. 1.. abd
McGregor-Polk, Violet Oil Co. 1 ..... abd
Rand Morgan, Titus & Calloway 1 .... abd
Lagasse, Titus & Calloway 3 ..... abd
Roark, Oso Drillers 3 500
RIO GRANDE POOL—STARR COUNTY
Ida Davis, Howard Stagg 1 ..... abd
Jones & Doyno, Chiquita Oil Co. 1 .... abd
LOS OLMOS POOL—STARR COUNTY
Kelsey Bass, Hooks & Weaver 14 ..... abd
Kelsey Bass, Barlow & Austin 1 ..... abd
LAUREL POOL—WEBB COUNTY
Rosenberg, South Texas Oil Co. 11 ... 75
Lloyd, Smith & Storey 1 ..... abd
Garcia-Villareal, Magnolia Pet. Co. 4.. abd
Garcia-Villareal, Magnolia Pet. Co. 2.. abd
Garcia-Villareal, L. M. Kiser 1 ..... abd
Garcia-Villareal, Magnolia Pet. Co. 3.. 45
Laurel, South Texas Oil Co. 6 66
Laurel, South Texas Oil Co. 12 80
Garcia-Villareal, Dyck Oil Co. 3 160
ESCOBAS FIELD—ZAPATA COUNTY
Bustamente, McCormick et al 1 ..... abd
Measles, The Texas Company 21 80
Measles, The Texas Company 19 80

Wells completed 49
Production 6812
Gas production 50,000,000
Abandoned 19

Miscellaneous Counties

ARANSAS COUNTY
McCampbell, F. E. Kestler 1 ..... abd

ATASCOSA COUNTY
Hurd-Tartt, Stieren & Pickett 1 ..... abd
Rountree, Jacob, Buzzini & Pickett 1. abd
BASTROP COUNTY
White, Humble Oil & Ref. Co. 1 ..... abd
Lentz, Nelson Pruitt 1 ..... abd
Rivers, Marts & Beavens 1 ..... abd
BEE COUNTY
Hicks, Gulf Coast Oil Co. 5 .....small well
BEXAR COUNTY
Hoch, C. I. Albertson 1 ..... gas
Hunter, Chiquita Oil Co. 4 ..... abd
CALDWELL COUNTY
Neelan, Louis Crouch 1 ..... abd
Alexander, E. R. Thomas 1 ..... abd
DUVAL COUNTY
Benavides, Commonwealth Oil & Gas Co. 1 ..... abd
Kidd, C. P. Scott 1 ..... abd
Hagist, S. R. C. Oil Co. 1 ..... abd
GUADALUPE COUNTY
Meban, Sequin Oil Co. 1 ..... abd
JIM HOGG COUNTY
Leyendecker, H. C. Cate 1 ..... abd
Armstrong, Miliam Drlg. Co. 1 ..... abd
Allen, Cole Pet. Co. 1 ..... abd
KARNES CVOUNTY
Weinert, Hindeman et al 1 ..... abd
LIVE OAK COUNTY
Fee, Live Oak Pet. Co. 2 ..... abd
West, Humble Oil & Ref. Co. 1 ..... abd
McMULLEN COUNTY
Hagist, Texas & Gant 1 ..... abd
Shiner, C. C. Shumway 1 ..... abd
Brown, Chas. B. Lofton 2 ..... abd
Jacob, Lefevre & Spice 1 ..... abd
MEDINA COUNTY
Mangold, W. L. Umburn 1 ..... abd
Faesler, James E. Greenlee 1 ..... abd
TRAVIS COUNTY
Brady, Robinson et al 1 ..... abd
Carlson, J. L. Collins & Co. 1 ..... abd
STARR COUNTY
Garcia, E. McCormick 1 ..... abd
Kelsey-Bass, Goodwin & Yantis 1 .... abd
WEBB COUNTY
Slator, J. W. Edwards 1 ..... abd
WILLIAMSON COUNTY
Gray, R. S. Wilson 1 ..... abd
Braker, E. F. Smith 1 ..... abd
ZAPATA COUNTY
Bruni, O. W. Killam 2 ..... abd
Vela, T. J. Murray 1 ..... abd
Trevino, S. R. C. Oil Co. 1 ..... gas

Wells completed 37
Production 25
Abandoned 34
Gas production 23,000,000

West Texas Fields

Summary of Wells Completed

County—	Comp.	Prod.	Abd.	Gas
Concho ..	1	0	1	0
Loving	1	0	1	0
Upton	1	170	0	0
Ward	14	946	2	0
Winkler	1	0	1	0
Total March	18	1,116	5	0
Total February	24	5,968	6	0
Difference	6	4,852	1	0

Summary of Rigs and Wells Drilling

County—	Rigs	S.D.	Dig.	Ttl.
Brewster	0	0	1	1
Concho	0	2	0	2
Crockett	0	3	1	4
Ector	0	2	3	5
Fisher	0	1	2	3
Garza	0	2	0	2
Glasscock	1	1	0	2
Howard	3	1	7	11
Irion	0	1	1	2
Jones	3	1	1	5
Loving	3	2	1	6
Pecos	0	4	5	9
Presidio	0	1	0	1
Reagan	0	1	7	8
Reeves	0	1	1	2
Runnels	0	2	0	2
Schleicher	0	1	1	2
Scurry	0	5	0	5
Taylor	0	2	0	2
Terrell	0	2	0	2
Ward	5	10	10	25
Winkler	1	1	4	6
Total March	16	46	45	107
Total February	7	61	50	131
Difference	9	15	5	24

WELLS DRILLING
CONCHO COUNTY
Mann et al No. 1 Hartgraves ..... abd

Completions 1
Abandoned 1

LOVING COUNTY
Lewis and Siagel No. 1 W. D. Johnson ..... abd

Completions 1
Abandoned 1

UPTON COUNTY
Gulf Prod. Co. No. 102 McElroy 170

Completions 1
Production 170

WARD COUNTY
Atlantic Oil & Prod. Co. No. 1 Black .. 32
Magnolia Pet. Co. No. 1 Brillhart 22
J. D. Kugle et al No. 1 Keasler ..... abd
J. C. Maxwell No. 1 Smith 45
Texas Pac. Coal & Oil Co. No. 7 James. 45
Gulf Prod. Co. No. 26 O'Brien 75
Gulf Prod. Co. No. 28 O'Brien 280
Atlantic Oil & Prod. Co. No. 2 Jones .. 160
Eastland Oil Co. No. 1 Grimes 30
George McCamey No. 1 Carey ..... abd
Bradford No. 1 Carson 35
Eastland Oil Co. No. 3 Weiss 150
Magnolia Pet. Co. No. 1 Brillhart 22
Penn Oil Co. No. 1 Hardage-Wilson 50

Completions 14
Production 946
Abandoned 2

WINKLER COUNTY
Sid Richardson No. 1-C Scarborough .. abd

Completions 1
Abandoned 1

Gulf Coast Fields

Summary of Field Operations

Texas

Field—	Comp.	Prod.	Abd.	Gas	Rgs.	Dig.	Ttl.
Ariola	1	0	1	0	0	1	1
Barbers Hill .	3	1,535	1	0	0	10	10
Batson	0	0	0	0	0	1	1
Big Creek ..	1	10	0	0	0	2	2
Buckeye ...	1	1,920	0	0	0	3	3
Clay Creek .	1	0	1	0	1	0	1
Conroe	88	170,776	4	0	11	65	76
Damon M'nd.	6	243	2	0	0	1	1
Esperson ...	1	95	0	0	0	1	1
Fannett	1	0	1	0	0	0	0
Goose Creek.	1	100	0	0	0	1	1
Hankamer ..	0	0	0	0	1	0	1
High Island.	3	2,945	0	0	1	4	5
Hockley	0	0	0	0	1	0	1
Hull	4	85	2	0	0	4	4
Humble	2	30	1	0	0	0	0
Keeran	0	0	0	0	0	1	1
Liberty	1	200	0	0	0	1	1
Lost Lake ..	0	0	0	0	0	1	1
McFaddin district	1	104	0	0	2	0	2
Manvel	1	0	1	0	0	2	2
Moss Bluff ..	1	0	1	0	0	1	1
Mykawa	0	0	0	0	0	1	1
Nash	1	25	0	0	0	0	0
Orange	0	0	0	0	0	1	1
Orchard	0	0	0	0	0	1	1
Pierce Jctn..	2	501	0	0	1	2	3
Port Neches.	1	0	1	0	0	1	1
Rabbs Ridge	6	7,220	0	0	1	9	10
Racc'n Bend	1	150	0	0	0	1	1
Refugio	0	0	0	0	0	2	2
Saratoga ...	1	12	0	0	0	1	1
Sour Lake ..	1	0	1	0	0	0	0
Sunshine-Schwabb dst.	0	0	0	0	1	2	3
Spurger	1	0	1	0	0	1	1
Sugarland ...	0	0	0	0	0	1	1
W. Columbia	1	900	0	0	0	0	0
Miscellaneous	22	0	21	1	7	24	31
Ttl. Mar. .	154	186,851	39	1	27	146	173
Ttl. Feb. .	107	129,174	24	2	18	166	184
Difference.	47	57,677	15	1	9	20	11

South Louisiana

Darrow	0	0	0	0	0	2	2
Cameron Meadows .	0	0	0	0	0	1	1
Choctaw	1	0	1	0	1	0	1
Edgerly	1	0	1	0	0	0	0
Gueydan ...	0	0	0	0	0	2	2
Hackberry, E.	4	50	3	0	0	3	3
Hackb'y, old	1	0	1	0	0	0	0
Iowa	0	0	0	0	0	3	3
Jennings ...	2	30	1	0	0	0	0
Lake Barre.	2	2,790	0	0	0	2	2
Lake Pelto .	0	0	0	0	0	1	1
Lockport ...	2	700	0	0	1	0	1
Port Barre .	1	1,475	0	0	0	1	1
Sorrento	1	0	1	0	1	0	1
Starks	0	0	0	0	0	1	1
Sulphur	1	15	0	0	0	2	2
Sweet Lake .	0	0	0	0	0	1	1
Vinton	2	0	2	0	0	1	1
Miscellaneous	5	0	5	0	4	8	12
Ttl. Mar. .	23	5,060	15	0	7	28	35
Ttl. Feb. .	23	3,994	15	0	4	32	36
Difference.	0	1,066	0	0	3	4	1
Ttl. Gulf C..	177	191,911	54	1	34	174	209
Gulf C., Feb..	130	133,168	39	2	22	198	220
Difference.	47	58,743	15	1	12	24	12

WELLS COMPLETED
Texas Coast

ARIOLA—HARDIN COUNTY
Ariola fee, Houston Oil Co. Y-1 ..... abd
BARBERS HILL—CHAMBERS COUNTY
Smith, Sinclair Prairie Oil Co. 2 ..... abd
J. Wilburn, Sun Oil Co. 15 50
Kirby, Texas Gulf Prod. Co. 12-H 1485

Wells completed 3
Production 1535
Abandoned 1

BIG CREEK—FORT BEND COUNTY
Wheat, King & Stone 1 10
BUCKEYE—MATAGORDA COUNTY
St.L.&B.M., United North & South Dev. Co. 1 1920
CLAY CREEK—WASHINGTON COUNTY
Clay, Sun Oil Co. 6 ..... abd
CONROE—MONTGOMERY COUNTY
Keystone Mills, Alpha Oil Co. 2 3500
Krohn, Alpha Oil Co. 2 2200
South Tex. Dev. Co., Alpha Oil Co. 1-C. 600
South Texas Dev. Co., Amerada Pet. Corp. 3 2160
Smith & Ratcliff, Bishop Oil Co. 1 1490
Keystone Mills, Gulf Coast Drlg. & Prod. Co. 1 1320
Keystone Mills, Gulf Coast Drlg. & Prod. Co. 6 1680
South Tex. Dev. Co., Hamill & Smith 1.1575
Gilbert, Hamilton, Hill & Hill 2 760
Massey, Harrison & Abercrombie 1 ...2160
Ben Wiggins, Harrison & Abercrombie 1 1800
Hooper, Hooper-Rutherford Oil Co. 5..3600
Cartwright, Houston Oil Co.-Tide Water Oil Co. 8 200
Hamman, Houston Oil Co.-Tide Water Oil Co. 5 185
Alexander, Humble Oil & Ref. Co. 1-F..2710
Cartwright, Humble Oil & Ref. Co. 1-A 2400
Cartwright, Humble Oil & Ref. Co. 11-A 2660
Collins, Humble Oil & Ref. Co. 1 2400
Emory, Humble Oil & Refining Co. 3 .2520
Hirsch, Humble Oil & Ref. Co. 3-B ...2540
Hirsch, Humble Oil & Ref. Co. 4-B ...1965
Jones, Humble Oil & Ref. Co. 1 2160
L. B. McComb, Humble Oil & Ref. Co. 2 3640
T. B. McComb, Humble Oil & Ref. Co. 1 1940
Madeley, Humble Oil & Ref. Co. 8 2065
Madeley, Humble Oil & Ref. Co. 9 2280
Madeley, Humble Oil & Ref. Co. 11 ... abd
Madeley, Humble Oil & Ref. Co. 28 ... abd
Madeley, Humble Oil & Ref. Co. 31 ...1895
Madeley, Humble Oil & Ref. Co. 32 ...1920
Madeley, Humble Oil & Ref. Co. 34 ...2085
Moore, Humble Oil & Ref. Co. 9 2400
Moore, Humble Oil & Ref. Co. 10 2400
Moore, Humble Oil & Ref. Co. 11 2350
Moore, Humble Oil & Ref. Co. 13 2450
Moore, Humble Oil & Ref. Co. 15 2665
Moore, Humble Oil & Ref. Co. 26 2400
Moore, Humble Oil & Ref. Co. 27 2665
Plaeffiin, Humble Oil & Ref. Co. 3 2540
L. B. Rooker, Humble Oil & Ref. Co. 3.2910
L. B. Rooker, Humble Oil & Ref. Co. 4.1920
South Tex. Dev. Co., Humble Oil & Ref. Co. 42 2160
South Tex. Dev. Co., Humble Oil & Ref. Co. 43 2325
South Tex. Dev. Co., Humble Oil & Ref. Co. 44 2544
Wiggins, Humble Oil & Ref. Co. 2 1965
Williams, Humble Oil & Ref. Co. 3 ...2250
Keystone Mills, McAlbert Co. 1 2475
Texas Osage, Malta Oil Co. 1 1320
Fannie Hooper, J. R. Meeker 1 2400
South Tex. Dev. Co., Mortex Oil Co. 1..1080
South Tex. Dev. Co., M. J. Munn 1 .... abd
Brown, Navarro Oil Co. 1 1800
South Tex. Dev. Co., Neversuch Oil Co. 2 1150
South Tex. Dev. Co., Skelly Oil Co.-Conroe Oil Co. 2 2280
South Tex. Dev. Co., Southern Drlg. & Prod. Co. 1 1080
Cummings, Southland Oil Co. 4 1200
Madeley, Standard Oil Co. of Kansas 3.2472
Smith & Ratcliff, Standard Oil Co. of Kansas 3 2760
Smith & Ratcliff, Standard Oil Co. of Kansas 4 1680
Smith & Ratcliff, Standard Oil Co. of Kansas 5 1680
South Tex. Dev. Co., 2, Steinberger, Brown & Wheeler 2 1560
Etheridge, Strake Pet., Inc., 1 1800
Foster, Sun Oil Co. 1 1152
Stewart, Sun Oil Co. 1 1920
Keystone Mills, Strake Pet., Inc., 1 3000
Dudley, The Texas Company 2 3025
Moody, The Texas Company 10 2400
Moody, The Texas Company 13 2525
Moody, The Texas Company 18 2400
Moody, The Texas Company 19 2040
Rhodes, The Texas Company 2 2255
Rhodes, The Texas Company 5 1750
Rhodes, The Texas Company 9 1080
Rhodes, The Texas Company 11 2255
Rhodes, Harvey Thornton 1 ..... abd
Dean, Tide Water Oil Co.-Strake 1 2400
Dean, Tide Water Oil Co.-Strake 2 2270
Dean, Tide Water Oil Co.-Strake 3 2400
Freeman, Tide Water Oil Co. 2 2077
Granger, Tide Water Oil Co. 1 1005
Krohn, Tide Water Oil Co. 1 1365
Krohn, Tide Water Oil Co. 2 1360
Lewis, Tide Water Oil Co. 13 960
Lewis, Tide Water Oil Co. 14 2640
Lewis, Tide Water Oil Co. 15 2520
Lewis, Tide Water Oil Co. 16 2280
South Tex. Dev. Co., Tide Water Oil Co.-Republic Prod. Co. 2 1176
South Tex. Dev. Co., Tide Water Oil Co.-Republic Prod. Co. 4 2400

Wells completed 88
Production 170,776
Abandoned 4

DAMON MOUND—BRAZORIA COUNTY
Wisdom, Intercoastal Oil Co. 10 200
Masterson, Sinclair Prairie Oil Co. 10 .. abd
Thomas, Sinclair Prairie Oil Co. 4 17
Williams, Sinclair Prairie Oil Co. 1 20
Bryan, A. W. Speed 1 ..... abd
Wisdom, H. Wisdom 1 6

Wells completed 6
Production 243
Abandoned 2

ESPERSON—LIBERTY COUNTY
Davis, Cranfill-Reynolds Co. 1 95
FANNETT—JEFFERSON COUNTY
Junker, Lowrie & Young 1 ..... abd
GOOSE CREEK—HARRIS COUNTY
Gillette, Ferrell & Gerhardt 1 100
HIGH ISLAND—GALVESTON COUNTY
Cade, Yount Lee Oil Co. 33 1135
Smith, Yount Lee Oil Co. 12 960
Smith, Yount Lee Oil Co. 14 850

Wells completed 3
Production 2945

HULL—LIBERTY COUNTY
Barngrover, Houston Prod. Co. 15 60
Noble & Lynd, Lynd & Rowe 1 ..... abd
Baggett, Porter & Baggett 1 ..... abd
Dolbear, Republic Prod. Co. 149 25

Wells completed 4
Production 85
Abandoned 2

HUMBLE—HARRIS COUNTY
River, Sun Oil Co. 68 30
River, Sun Oil Co. 68 ..... abd

Wells completed 2
Production 30
Abandoned 1 1

LIBERTY—LIBERTY COUNTY
Barrett, Mecom Oil Co. 1 200
McFADDIN DIST.—REFUGIO COUNTY
O'Connor, Humble Oil & Ref. Co. 3 ... 104
MANVEL—BRAZORIA COUNTY
Nichols, Alpha Oil Co. 1 ..... abd
MOSS BLUFF—LIBERTY COUNTY
McFaddin, Texas Gulf Sulphur Co. 3 ... abd
NASH—BRAZORIA COUNTY
Nash, Harrison & Abercrombie 15 25
PIERCE JUNCTION—HARRIS COUNTY
Settegast, Rio Bravo Oil Co. 14-A 36
Herman, Saxet Oil Co. 3 465

Wells completed 2
Production 501

PORT NECHES—ORANGE COUNTY
Stark, The Texas Company 4 ..... abd
RABBS RIDGE—FORT BEND COUNTY
Mary Gubbels, Gulf Prod. Co. 2-A 1400
Gubbels, Humble Oil & Ref. Co. 5 1450
F. I. Booth, Humble Oil & Ref. Co. and Gulf Prod. Co. 11-A 1320
George, Humble Oil & Ref. Co. and Gulf Prod. Co. 1-A 650
Lockwood & Sharp, Humble Oil & Ref. Co. and Gulf Prod. Co. 15-A 1200
Lockwood & Sharp, Humble Oil & Ref. Co. and Gulf Prod. Co. 13-B 1200

Wells completed 6
Production 7220

RACCOON BEND—AUSTIN COUNTY
Walton, Humble Oil & Ref. Co. 9-A ... 150

SARATOGA—HARDIN COUNTY
Jordit, Rio Bravo Oil Co. 93 12

FOUR LAKE—HARDIN COUNTY
Stewart, M. L. Yount 1 ..... abd
WEST COLUMBIA—BRAZORIA COUNTY
Abrams, The Texas Company 12 990

Miscellaneous Texas Wildcats

AUSTIN COUNTY
S. F. Austin 4 League, Schevojsa, Great Southern Oil Co. 1 ..... abd

BRAZOS COUNTY
W. Mathis Sur., Mosely, Dew-Dickerson-Wickiyne 1 ..... abd

BURLESON COUNTY
M. B. Lawrence Sur., Polansky, Poor Boy Oil Co. 1 ..... abd

CHAMBERS COUNTY
John Ijams Sur., Fisher, Weaver & Ray 1 ..... abd

COLORADO COUNTY
Cook & DeWeese Sur., Tate, Mustange Oil Co. 1 ..... abd

FORT BEND COUNTY
M. Escalera Sur., Westenfeld, John Deering and Benedum & Trees 1 ... abd
Wm. Barrett & Abner Harris Sur., Jackson & Brown, Lowrie & Young 1 .... abd
H.&T.C. Sur., Sec. 43, Kneitz, Lynch et al 1 ..... a'd
T. J. Bell Sur., Joe Sitta, Reisinger et al 1 ..... abd

GALVESTON COUNTY
Sarah White Sur., Rosenkrans, Humble Oil & Ref. Co. 1 ..... abd

GRIMES COUNTY
Samuel Beauman Sur., Comba, W. J. Brightwell 1 ..... abd
Timothy Jones Sur., Dodd, Barnett et al 1 ..... abd

HARDIN COUNTY
Wm. W. Young Sur., Bevil, Joe E. Proctor 1 ..... abd

HARRIS COUNTY
March Sur., Kleppis, Mills Bennett Prod. Co. 1 ..... abd

JACKSON COUNTY
Edna—Drushell, Chicago Gulf Oil Corp. 10 ..... gas

JEFFERSON COUNTY
Wm. Carr Sur., Todd, Jack Schultz 2. abd

LIBERTY COUNTY
Reason Green Sur., Eicke, James Papadakis 1 ..... abd

MONTGOMERY COUNTY
John Sealey Sur., Sealey, Mound Creek Oil Co. 1 ..... abd

NEWTON COUNTY
T.&N.O. Sur., Price, L. A. James et al 1 abd

POLK COUNTY
Castillian Sur., Root, Koch & Stevens 1 abd

REFUGIO COUNTY
C.E.P.—I.&M. Sur. No. 40, O'Connor, Gulf Prod. Co. 2 ..... abd

TRINITY COUNTY
Wm. Beasley Sur., Gibson, C. M. Beckner 1 ..... abd

Wells completed 22
Abandoned 21
Gas wells 1

Louisiana Coast

CHOCTAW—IBERVILLE PARISH
Gay, Standard Oil Co. of Louisiana 3.. abd

EDGERLY—CALCASIEU PARISH
Hunter, C. O. Noble, trustee 6 ..... abd

JENNINGS—ACADIA PARISH
Jennings—Clement, Fred Getty 33 30
Luckett, Olympic Oil Co. 1 ..... abd

Wells completed 2
Production 30
Abandoned 1

EAST HACKBERRY—CAMERON PARISH
Watkins, Calcasieu Oil Co. 20 50
Watkins, Calcasieu Oil Co. 40 ..... abd
Hanszen, Calcasieu Oil Co. 1-A ..... abd
Irwin, Gulf Ref. Co. 11 ..... abd

Wells completed 4
Production 50
Abandoned 3

OLD HACKBERRY—CAMERON PARISH
School Land, Yount Lee Oil Co. 13 ... abd

LAKE BARRE—TERREBONNE PARISH
State—Lake Barre, The Texas Company 17 2500
L.L.&E., The Texas Company 1 290

Wells completed 2
Production 2790

LOCKPORT—CALCASIEU PARISH
Farquahar, Magnolia Pet. Co. 9 500
Miller, Magnolia Pet. Co. 33 200

Wells completed 2
Production 700

PORT BARRE—ST. LANDRY PARISH
Botney Bay, The Texas Company 14...1475

FORRENTO—ASCENSION PARISH
United Land Co., Union Sulphur Co. 23 abd

SULPHUR—CALCASIEU PARISH
Fee, Union Sulphur Co. 771 15

VINTON—CALCASIEU PARISH
Vincent, Vinton Pet. Co. 23 ..... abd
Wilson, Wilson-Broach 9 ..... abd

Wells completed 2
Abandoned 2

Miscellaneous Louisiana

AVOYELLES PARISH
Sec. 11-22s-5e, Thompson Katz, T. J. Woodley 1 ..... abd

CONCORDIA PARISH
Sec. 18-9n-10e, Pan American, M. M. Stokes 1 ..... abd

JEFFERSON DAVIS PARISH
Sec. 22-10s-4w, Clarphy Lognion, B. D. Fenly 1 ..... abd
Sec. 14-9s-4w, DeVilbiss, Humble Oil & Ref. Co. 1 ..... abd

LA FOURCHE PARISH
Sec. 32-18s-22e, Lollain, Lehulu Oil Co. 1 abd

Wells completed 5
Abandoned 5

Louisiana Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	*Rgs.	Dig.	Ttl.
Allen	0	0	0	1	0	1	
Avoyelles	0	0	0	0	1	1	
Beauregard	0	0	0	0	2	1	3
Bienville	1	0	1	0	2	1	3
Bossier	2	0	1	0	1	4	5
Caddo	3	18	1	1	4	5	9
Claiborne	1	0	1	0	0	2	2
DeSoto	0	0	0	0	2	12	14
Grant	0	0	0	0	0	1	1	2
Jackson	0	0	0	0	1	0	1
Morehouse	0	0	0	0	0	1	1	2
Natchitoches	2	0	2	0	0	4	4
Ouachita	0	0	0	0	2	2	4
Rapides	0	0	0	0	2	1	3
Red River	0	0	0	0	0	2	2	4
Sabine	17	535	12	0	18	58	76
Tensas	0	0	0	0	0	1	1
Union	1	0	1	0	0	2	2
Vernon	1	0	1	0	0	1	1
Webster	0	0	0	0	1	1	2
W. Carroll	0	0	0	0	0	1	1
Winn	0	0	0	0	0	1	1
Ttl. Mar.	28	543	20	1	40	102	142
Ttl. Feb.	18	3,990	11	1	50	112	162
Difference	10	3,447	9	0	10	10	20

*Gas production: Caddo, 22,702,200 feet.

WELLS COMPLETED
BIENVILLE PARISH
23-16- 5 Caldwell, W. H. Marr 1 .... dry

BOSSIER PARISH
15-22-14 Nattin, Brazeallo & Steckoll 1 dry
22-22-14 Nattin, Brazeallo & Steckoll 2. abd

CADDO PARISH
27-23-16 Levee Board, United Gas Public Service Co. 1 ..... gas
6-20-15 Doan-Thigpen, Magnolia Pet. Co. 20 18
4-18-16 C. C. Wheeler, Pyramid Oil 2 dry

Gas production 22,702,200

CLAIBORNE PARISH
8-21- 7 W. J. H. Smith, Webster Oil 1 dry

NATCHITOCHES PARISH
11-10- 8 Smith, DeSoto Bros. Drlg. Co. 1 dry
23- 5- 6 Clark-Morse Lbr. Co., Texana Oil Co. 1 ..... dry

RICHLAND PARISH
11-14- 6 Fee, Humble Prod. Co. 1 .... abd

SABINE PARISH
28- 8-11 Sabine State Bank, H. H. Alvord 1 ..... dry
31- 8-10 Henderson, J. H. Askew 3 ... abd
12- 7-11 Cutrer, W. C. Beene et al 1 .. abd
13- 7-11 Travis, V. R. Hammond et al 1 dry
29- 8-10 La. Long Leaf Lbr. Co., A. N. Landis 1 ..... dry
30- 8-11 Trammell, Lion Oil Ref. Co. 1 dry
9- 7-11 Ponder, E. F. Neely 1 ..... dry
4- 7-11 Turner, Nowlin & Cherry 1 .. dry
31 -8-10 Brown Lbr. Co., H. W. Perritt 1 ..... dry
36- 8-12 Blackman, Pugh-Hickman 3 . dry
13- 4-12 Pickering Lbr. Co., J. G. Puterbaugh 1 ..... dry
21- 7-11 Darby, Sam Riggs, Jr. 1 ..... dry
8- 7-11 Lilley, C. T. Ruffin 1 ..... dry
11- 8-13 Fleming, Simmons et al 1 ... abd
3- 7-13 Keazelle, State Prod. Co. 1 .. 30
8- 7-13 Sabine Lbr. Co., State Prod. 1 5
11- 7-11 Hopkins, Talbert & Perkins 1 140
25- 8-12 Barthold & Steinhorst, A. H. Tarver 1 100
15- 7-11 T. L. Andries, Coming Oil 1 .. 150
33- 8-11 Stille, The Texas Co. 6 ..... dry

Wells completed 17
Production 525
Dry 12

UNION PARISH
29-21-2w Starling, Paul G. Benedum 1.. dry

VERNON PARISH
34-2n-9w Fee, Llano Co-Operative Colony 1 ..... dry

Arkansas Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Cleburn	0	0	0	0	0	1	1
Cleveland	0	0	0	0	1	0	1
Columbia	0	0	0	0	1	1	2
Hempstead	0	0	0	0	1	0	1
Jefferson	0	0	0	0	0	1	1
Lafayette	0	0	0	0	0	2	2
Lincoln	0	0	0	0	0	1	1
Little River	0	0	0	0	0	3	3
Miller	1	45	0	0	5	13	18
Ouachita	0	0	0	0	1	1	2
Prairie	0	0	0	0	1	0	1
Union	0	0	0	0	5	3	8
Woodruff	0	0	0	0	0	1	1
Yell	0	0	0	0	0	1	1
Ttl. Mar.	1	45	0	0	15	28	43
Ttl. Feb.	4	0	4	0	21	24	45
Difference	3	45	4	0	6	4	2

WELLS COMPLETED
MILLER COUNTY
4-16-26 E. V. Olivet, Magnolia Pet. 1.. 45

Mississippi Fields

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Amite	0	0	0	0	0	1	1
Clarke	0	0	0	0	0	1	1
Covington	1	0	1	0	0	1	1
George	0	0	0	0	0	1	1
Hinds	0	0	0	0	2	2	4
Jasper	1	0	1	0	0	0	0
Lamar	0	0	0	0	0	1	1	2
Monroe	0	0	0	0	0	1	1
Newton	0	0	0	0	0	1	1
Rankin	0	0	0	0	1	1	2
Scott	0	0	0	0	0	1	1
Sunflower	0	0	0	0	0	1	1
Webster	0	0	0	0	0	1	1
Wilkinson	0	0	0	0	0	1	1
Ttl. Mar.	2	0	2	0	4	14	18
Ttl. Feb.	6	150	3	2	4	12	16
Difference	4	150	1	2	0	2	2

WELLS COMPLETED
COVINGTON COUNTY
19- 8-15 E. B. Pickering, Eastman-Gardiner Interests 1 ..... dry
JASPER COUNTY
35-3n-12 Bank of Philadelphia, B. B. Jones 1 ..... dry

EAST TEXAS (BORDER COUNTIES)

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Bowie	0	0	0	0	0	2	2
Cass	0	0	0	0	0	3	3
Harrison	0	0	0	0	0	1	1
Marion	0	0	0	0	0	3	3
Panola	0	0	0	0	0	4	4
Red River	0	0	0	0	1	2	3
Shelby	0	0	0	0	0	4	4
Ttl. Mar.	0	0	0	0	1	19	20
Ttl. Feb.	7	0	7	0	6	15	21
Difference	7	0	7	0	5	4	1

ALABAMA

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Baldwin	0	0	0	0	0	1	1
Cullman	0	0	0	0	0	1	1
Lamar	0	0	0	0	0	1	1
Washington	0	0	0	0	0	1	1
Ttl. Mar.	0	0	0	0	0	4	4
Ttl. Feb.	0	0	0	0	0	4	4
Difference	0	0	0	0	0	0	0

Rocky Mountain Area

COLORADO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Archuleta	1	0	1	0	0	2	3
Boulder	0	0	0	0	0	4	4
Elbert	0	0	0	0	0	4	4
Fremont	2	0	2	0	0	2	2
Jackson	0	0	0	0	0	5	5
La Plata	0	0	0	0	1	2	3
Larimer	2	0	2	0	1	9	10
Las Animas	1	0	1	0	0	2	2
Moffat	0	0	0	0	2	2	4
Morgan	0	0	0	0	1	1	2
Rio Blanco	1	0	0	1	0	2	2
Routt	0	0	0	0	1	1	2
Weld	2	0	2	0	0	4	4
Miscellaneous	0	0	0	0	0	16	16
Ttl. Mar.	9	0	3	1	5	57	63
Ttl. Feb.	4	0	1	0	1	60	66
Difference	5	0	5	0	0	3	3

WELLS COMPLETED
24- 1n-66 Cronin, Retter Oil Co. 1 ... dry
24- 1n-66 Cronin, Retter Oil Co. 2 ... dry
15- 2s-96 Titley, Magnolia Pet. Co. 1 .. gas
28-28 -52 Radcliff, Okla. Drlg. Co. 1 .. abd
31-12 -69 U. P. C., Leonard Smith 1 ... abd
21- 4n-69 Wilson, Standard O. of Colo. 1 abd
16-18 -69 State, Waterville Oil Co. 1 .. dry
22-19 -69 Mojada, S. W. Pressey 1 .... dry
2-32n-2e Crowley, Standard Oil Co. of Colo. ..... dry

Wells completed 9
Gas 1
Gas production 4,000,000
Dry and abandoned 8

UTAH

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Total Mar.	0	0	0	0	0	15	15
Total Feb.	0	0	0	0	0	15	15
Difference	0	0	0	0	0	0	0

NEW MEXICO

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
De Baca	0	0	0	0	0	2	2
Eddy	2	65	1	0	4	7	11
Lea	5	21,091	0	0	0	11	11
McKinley	0	0	0	0	0	7	7
San Juan	0	0	0	0	0	10	10
San Miguel	0	0	0	0	0	3	3
Santa Fe	0	0	0	0	0	3	3
Valencia	0	0	0	0	1	3	4
Miscellaneous	0	0	0	0	2	12	14
Ttl. Mar.	7	21,156	1	0	7	58	65
Ttl. Feb.	8	39,697	2	0	10	60	70
Difference	1	18,541	1	0	3	2	5

WELLS COMPLETED
13-25-36 Sholes, Continental Oil 1-B ..2280
4-19-28 State, Stanolind O. & G. 29...1231
4-19-28 Byers, Stanolind O. & G. 26...6998
25-18-27 State, The Texas Co. 4-C....9351
3-19-28 Capps, Stanolind O. & G. 8...1231
30-18-28 State, Flynn, Welch & Yates 65 65
16-22-27 State, Poole O. & G. Co. 2.... dry

Wells completed 7
Production 21,156
Dry and abandoned 1

WYOMING

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Big Horn	0	0	0	0	1	6	7
Carbon	0	0	0	0	2	2	4
Converse	0	0	0	0	0	6	6
Crook	0	0	0	0	0	5	5
Fremont	0	0	0	0	0	5	5
Hot Springs	0	0	0	0	0	3	3
Natrona	0	0	0	0	2	8	10
Park	0	0	0	0	0	2	2
Sweetwater	0	0	0	0	2	5	7
Sublet	0	0	0	0	1	3	4
Uinta	0	0	0	0	0	2	2
Weston	0	0	0	0	0	4	4
Miscellaneous	0	0	0	0	0	7	7
Ttl. Mar.	0	0	0	0	8	58	66
Ttl. Feb.	7	366	5	0	0	55	64
Difference	7	366	5	0	1	3	2

MONTANA

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Carbon	0	0	0	0	2	6	8
Glacier	2	75	0	1	2	6	8
Liberty	0	0	0	0	0	3	3
Teton	0	0	0	0	0	3	3
Toole	0	0	0	0	0	4	4
Miscellaneous	0	0	0	0	0	8	8
Ttl. Mar.	2	75	0	1	4	30	34
Ttl. Feb.	7	277	2	0	5	34	39
Difference	5	202	2	1	1	4	5

WELLS COMPLETED
14-34-6w Matson, Alberta-Pac. Oil 1 .. 75
7-34-5w McLellan, R. C. Tarrant 1 ... gas

Wells completed 2
Production 75
Gas 1
Gas production 900,000

Eastern Fields

Summary of Completed Work

Field—	Comp.	Prod.	Dry	Gas
Bradford	20	59	0	0
Venango-Clarion	2	2	0	0
Butler-Armstrong	3	4	0	0
New York-Pa. gas	8	0	4	4
Southwest Pa.	3	20	1	0
Southeast Ohio	14	129	5	3
West Virginia	19	80	4	11
Total March	69	294	14	18
Total February	72	363	14	31
Difference	3	31	0	13

Summary of Work Under Way

Field—	Rigs	Dig.	Ttl.
Allegany	0	1	1
Bradford	6	17	23
Venango-Clarion	0	3	3
Butler-Armstrong	0	3	3
New York-Pennsylvania gas	8	21	29
Southwest Pennsylvania	2	3	5
Southeast Ohio	7	23	30
West Virginia	23	44	67
Total March	46	115	161
Total February	51	131	182
Difference	5	16	21

WELLS COMPLETED
BRADFORD
Corwin, Corwin & Gallagher 20 2
Farm 4119, South Penn Oil (3)...pressure
Farm 4148, South Penn Oil, (6)...pressure
Franchot, Bradford Prod. Co., Inc. 25
Morris, Minard Run Oil Co. 2
Quintuple, W. M. Howard 2
Fee, Olean Pet. Co. 12
Fee, Olean Pet. Co. 10
Fee, Bradford Prod. Co., Inc. .....pressure
Fee, Sloan & Zook 2
Duke, Sloan & Zook Oil Co. 1 ....pressure
Fee, W. A. Edison 2
Lewis Run Mfg. Co., Wood & Wood .. 1

Completions 20
Production 59
Pressure 11

VENANGO-CLARION
Clark, R., and George Foggan 42 1
McCrea, Johnson Snyder et al 25 1

Completions 2
Production 2

BUTLER-ARMSTRONG
McJunkin, Kohlmeyer & Purvis 9 1
Bean, Samuel Schaffner 1 1
McCollough, Willis M. Ruby 9 2

Completions 3
Production 4

NEW YORK-PENNSYLVANIA GAS
Moran, Cunningham Nat. Gas ..... gas
Weber, Wittmer O. & G. ..... gas
Allen, Potter Dev. Co. ..... dry
Mills, Peterman et al ..... dry
Van Zile, Mellon & Pollock 2 ..... gas
Leonard, Cowanesque Gas Co. ..... dry
Martin, C. O. Kaufman ..... dry
Phelps, Sylvania Corp. ..... gas

Completions 8
Dry 4
Gas 4

SOUTHWEST PENNSYLVANIA
WELLS COMPLETED
WASHINGTON COUNTY
Lewis heirs, Union Gasoline & Oil 1 .. 15
Morton, Carnegie Nat. Gas Co. 1 5
Clark, Baldwin & Gaskell 1 ..... dry

SOUTHEAST OHIO
WELLS COMPLETED
ATHENS COUNTY
Young, C. O. Young 3 1
COSHOCTON COUNTY
Dawson, Kunctz-Hulse, Inc., et al 1 .. 50
Donaker, Preston Oil Co. 3 20

CUYAHOGA COUNTY
Kulas, M. E. McFrederick et al 1 .. dry
HOLMES COUNTY
Ulrick, Mehowa O. & G. Co. 1 30
KNOX COUNTY
Hunter, H. E. Perkins and Upham Gas Co. 1 ..... dry
LICKING COUNTY
Hall, G. F. Early et al 1 ..... gas
MEDINA COUNTY
Broadsword, Curtis & Eaken 7 25
Packard, E. R. Edson & Son Co. 21 .. dry
Severcool, Kolb & McGrath 2 ..... dry
NOBLE COUNTY
Larrick, Muhlback & Jewell 1 ..... dry
PERRY COUNTY
Foraker, Hopewell Fuel & Gas Co. 1 .. gas
WASHINGTON COUNTY
Schneider, Wm. Schneider 6 3
Ewers, Vulcan Gas Co. 1 ..... gas

WEST VIRGINIA
WELLS COMPLETED
CABELL COUNTY
Swanson & Hatchard, F. M. McCoach & Co. 1 ..... gas
CALHOUN COUNTY
Elder, Haught & Osborne 2 ..... gas
Board of Education, Homer Scott 1 .. gas
Miller, Norris & Cain 1 5
GILMER COUNTY
Snyder, Poling and Mollahan 1 ..... dry
JACKSON COUNTY
Burdette, H. H. Sheppard et al 1 ... dry
KANAWHA COUNTY
Copenhaver, Grosscup et al 3 ..... gas
Goshorn et al, Marshall & Price 8 .... gas
LINCOLN COUNTY
Harless, Cambridge Gas Co. 2 ..... gas
Johnson, B. C. K. Gas Co. 1 ..... gas
Egnor, Pridemore & Adkins 1 ..... gas
MONONGALIA COUNTY
Johnson, Kane G. & O. Co. 1 ..... gas
RITCHIE COUNTY
Hinton, Roscoe Richards et al 1 10
Robinson, Lucky Strike Oil Co. 2 55
Jenkins, H. N. Rinehart et al 1 ..... dry
Westfall, Russell Morris et al 1 ..... gas
Law, Dr. Moyers et al 1 10
ROANE COUNTY
Tawney, Tawney O. & G. Co. 1 ..... gas
Smith, Big Sandy O. & G. Co. 2 ..... dry

Illinois Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Clark	0	0	0	0	0	3	3
Coles	0	0	0	0	0	1	1
Crawford	1	0	1	0	1	1	2
Lawrence	0	0	0	0	0	1	1
Boone	0	0	0	0	0	1	1
Jefferson	0	0	0	0	0	1	1
Jasper	0	0	0	0	0	1	1
Clinton	0	0	0	0	0	1	1
Bond	0	0	0	0	0	1	1
Ttl. Mar.	1	0	1	0	1	11	12
Ttl. Feb.	3	0	2	1	1	10	11
Difference	2	0	1	1	0	1	1

WELLS COMPLETED
CRAWFORD COUNTY
Honey Creek—Grant Jessup, Warner Bros. 1 ..... dry

Indiana Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Gibson	0	0	0	0	1	2	3
Pike	3	0	0	3	0	5	5
Sullivan	2	0	1	1	0	4	4
Daviess	0	0	0	0	0	1	1
Warrick	0	0	0	0	0	1	1
Vigo	1	0	1	0	0	1	1
Spencer	0	0	0	0	0	3	3
Perry	1	5	0	0	0	5	5
Knox	1	0	0	1	0	3	3
Harrison	0	0	0	0	0	3	3
Monroe	1	0	0	1	0	0	0
Hamilton	0	0	0	0	0	2	2
Dearborn	0	0	0	0	0	1	1
Greene	0	0	0	0	0	2	2
Switzerland	0	0	0	0	0	3	3
St. Joe	0	0	0	0	0	1	1
Rush	0	0	0	0	0	2	2
DeKalb	0	0	0	0	0	1	1
Pulaski	0	0	0	0	0	1	1
Elkhart	0	0	0	0	1	0	1
Johnson	0	0	0	0	0	1	1
Kosciusko	0	0	0	0	0	1	1
Hancock	0	0	0	0	0	1	1
Stark	0	0	0	0	0	2	2
Jasper	0	0	0	0	0	1	1
Martin	0	0	0	0	0	1	1
Huntington	0	0	0	0	0	1	1
Vanderburg	5	80	1	0	0	5	5
Ttl. Mar.	14	85	3	6	2	54	56
Ttl. Feb.	16	55	6	4	1	58	59
Difference	2	30	3	2	1	4	3

WELLS COMPLETED
PIKE COUNTY
Washington—Helen Smith, Claude E. Noble & Co. 1 ..... gas
Thomas Insman, Chas. C. Talliaferro, Jr. 1 ..... gas
J. M. Smith, A. E. Daviess & Co. 1 .. gas
Wells completed 3
Gas 3
SULLIVAN COUNTY
Curry—John L. Bohanon, Wm. H. Wood & Co. 1 ..... gas
Haddon—Meyer, O. A. Thayer 1 ..... dry
Wells completed 2
Gas 1
Dry 1
VIGO COUNTY
Prairie Creek—Wm. Riggs, Sioux Oil 31 dry
PERRY COUNTY
Clark—Perry Andrews, Fred Conyers 1 h
KNOX COUNTY
Busseron—Starner Bond, Gardner Pet 1 gas
MONROE COUNTY
Benton—W. J. Neal, Ohio Oil & Pet. Expl. 1 ..... gas
VANDERBURG COUNTY
Center—J. and M. Effinger, John L. Drake & Co. 3 20
J. and M. Effinger, John L. Drake & Co. 4 15
Evansville Airport, Ellis & Young 1. 30
Kruger, Jess Young 2 15
Scott—W. W. Sipp, C. J. Weideman 1 .. dry
Wells completed 5
Production 30
Dry 1

Kentucky Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ohio	3	900	1	0	0	10	10
Daviess	3	0	3	0	0	13	13
Hancock	0	0	0	0	0	7	7
McLean	1	7	0	0	0	4	4
Henderson	1	35	0	0	0	1	1
Muhlenberg	0	0	0	0	0	1	1
Hart	1	0	0	1	0	0	0
Taylor	0	0	0	0	0	1	1
Madison	0	0	0	0	0	1	1
Bath	0	0	0	0	0	1	1
Breckenridge	0	0	0	0	0	1	1
Greene	0	0	0	0	1	0	1
Edmonson	0	0	0	0	0	1	1
Todd	0	0	0	0	0	1	1
Grayson	0	0	0	0	0	1	1
Lee	0	0	0	0	0	1	1
Knox	0	0	0	0	0	1	1
Ttl. Mar.	9	942	4	1	2	45	47
Ttl. Feb.	9	724	6	0	1	48	49
Difference	0	218	2	1	1	3	2

WELLS COMPLETED
OHIO COUNTY
Barretts Hill—L. E. Morris, Creek Drlg. Co. 10 500
L. E. Morris, Creek Drlg. Co. 11 400
Maxwell—Morgan hrs., S. A. Cobb & Co. 1 ..... dry
Wells completed 2
Production 900
Dry 1
DAVIESS COUNTY
Red Hill—Louis May, Whitmer O. & G. 2 ..... dry
John D. Wells, Whitmer O. & G. 5 .. dry
Sugar Grove—Harrison Bros., C. E. Daugherty 2 ..... dry
Wells completed 3
Dry 3
McLEAN COUNTY
Maxwell—H. H. Northern, E. L. Newton & Co. 3 7
HENDERSON COUNTY
Niagara—Sam H. Walker, Imperial O. & G. Products 1 35
HART COUNTY
Horse Cave—Mary Dale, unknown parties 1 ..... gas

Lima Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Wood	0	0	0	0	0	2	2
Hancock	1	0	1	0	0	0	0
Allen	0	0	0	0	0	1	1
Auglaize	1	0	1	0	0	3	3
Mercer	0	0	0	0	0	2	2
Sandusky	1	0	1	0	1	2	3
Lucas	0	0	0	0	0	1	1
Ottawa	0	0	0	0	0	1	1
Seneca	2	0	0	2	0	5	5
Wyandot	0	0	0	0	0	5	5
Marion	0	0	0	0	0	1	1
Ttl. Mar.	5	0	3	2	1	23	24
Ttl. Feb.	6	11	0	3	1	20	21
Difference	1	11	3	1	0	3	3

WELLS COMPLETED
WOOD COUNTY
Liberty—J. E. Parmenter, Ohio Oil 12 .. abd
S. L. Mitchell, Ohio Oil Co. 29 ..... abd
Henry—B. A. Lawrence, Ohio Oil 9 .. abd
B. A. Lawrence, "E," Ohio Oil 36 .. abd
John Lawrence, Ohio Oil 2, 5 ..... abd
S. M. Bowers, Ohio Oil 13 ..... abd
Abandoned 7
HANCOCK COUNTY
Allen—E. W. Poe, Ohio Oil 16 ..... dry
ALLEN COUNTY
Marion—Frank Etzkorn, Alva Spencer & Co. 4 ..... abd
Bath—John Ruhlen, Ira B. Post No. 2 Co. 1, 2 ..... abd
E. T. Landis, Ira B. Post No. 3 Co. 3, 4, 5 ..... abd
Abandoned 6
AUGLAIZE COUNTY
St. Marys—Fred Werner, B. Carmin & Co. 1 ..... dry
SANDUSKY COUNTY
Washington—John Noss, Zorn-Hornung Co. 21 ..... abd
J. H. Neiset, Zorn-Hornung Co. 7 ... abd
John Kirsch, Zorn-Hornung Co. 3, 4. abd
Humburger, Ohio Oil 12 ..... abd
Adam Humburger, Ohio Oil 9 ..... abd
Sandusky—Felix Rafferty, Ohio Oil 8. abd
Ballville—C. J. Rice, T. F. O'Brien & Co. 1 ..... dry
Rice—A. Krellick, Ohio Oil 4 ..... abd
Scott—W. E. Lehman, D. L. Keiser 1, 2, 3, 4 ..... abd
Wells completed 1
Dry 1
Abandoned 13
SENECA COUNTY
Hopewell—Mary McElhaney, Green & Co. 1 ..... gas
H. L. Crum, W. I. Gettman & Co. 1 .. gas
Jackson—Wm. Boyd, Ohio Oil 2 ..... abd
Wells completed 2
Gas 2
Abandoned 1

Michigan Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Muskegon	1	0	1	0	7	3	10
Isabella	1	0	0	1	1	8	9
Midland	9	1,640	2	0	14	37	51
Clare	0	0	0	0	2	2	4
Oceana	0	0	0	0	2	8	10
Lake	0	0	0	0	1	1	2
Iosco	0	0	0	0	1	0	1
Gratiot	0	0	0	0	2	2	4
Cass	0	0	0	0	1	1	2
Kent	0	0	0	0	1	2	3
Emmett	0	0	0	0	0	1	1
Saginaw	2	15	0	0	1	1	2
Montmorency	0	0	0	0	3	0	3
Leelanau	0	0	0	0	1	0	1
Sanilac	0	0	0	0	3	0	3
Newaygo	1	0	1	0	0	2	2
Wexford	0	0	0	0	0	1	1
Shiawassee	0	0	0	0	2	2	4
Allegan	0	0	0	0	0	3	3
Livingston	0	0	0	0	1	2	3
Osceola	0	0	0	0	1	0	1
St. Clair	0	0	0	0	1	0	1
Alpena	0	0	0	0	1	0	1
Cheboygan	0	0	0	0	0	1	1
Kalamazoo	0	0	0	0	0	1	1
Oakland	0	0	0	0	0	1	1
Macomb	0	0	0	0	0	1	1
Gennessee	0	0	0	0	1	0	1
Mecosta	1	0	0	1	0	0	0
Tuscola	0	0	0	0	0	1	1
St. Joe	0	0	0	0	1	0	1
Ogemaw	0	0	0	0	1	1	2
Ttl. Mar.	15	1,655	4	2	49	82	131
Ttl. Feb.	15	840	7	0	57	66	123
Difference	0	815	3	2	8	16	8

WELLS COMPLETED
MUSKEGON COUNTY
Cedar Creek—Chas. Ewing, Reed Oil 1. dry
ISABELLA COUNTY
Vernon—H. and K. McGuire, Old Dutch O. & G. 1 ..... gas
MIDLAND COUNTY
Greendale—Joe Nowak, Pure Oil 1-A . 300
Mattie Yost, Pure Oil Co. 2-B 70
Mattie Yost, Pure Oil Co. 2-A ..... dry
Glen M. Reem, Pure Oil Co. 5-C ... 350
H. Woern, Pure Oil Co. 1 250
Leona Carnell, Columbia O. & G. 1 dry
State Mich., Talbot Oil Co. 3-B ... 200
Opperman, Edw. Stewart & Co. 5 .. 300
N. J. Skinner, Gordon Oil 7 170
Wells completed 9
Production 1640
Dry 1
SAGINAW COUNTY
Birch Run—Wm. Bender, Craig-Smith O. & G. 1 5
Johns & Co., Smith Pet. Co. 1 10
Wells completed 2
Production 15
NEWAYGO COUNTY
Sherman—A. J. Bates, Newaygo O. & G. 1 ..... dry
MECOSTA COUNTY
Austin—Jas. H. Barton, Jas. M. Taggert & Co. 1 ..... gas

Central Ohio Fields

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rgs.	Dig.	Ttl.
Ashland	0	0	0	0	1	1	2
Lorain	1	0	0	1	0	0	0
Medina	3	16	1	0	1	2	3
Knox	1	0	1	0	1	1	2
Summitt	0	0	0	0	0	2*	2
Cuyahoga	1	0	1	0	0	0	0
Fairfield	2	0	0	2	0	1	1
Coshocton	3	231	0	0	1	2	3
Richland	1	0	1	0	0	1	1
Licking	2	0	1	1	1	1	2
Muskingum	1	38	0	0	1	4	5
Athens	1	2	0	0	1	3	4
Tuscarawas	0	0	0	0	1	1	2
Holmes	1	30	0	0	1	0	1
Stark	3	0	0	3	6	15	21
Belmont	3	0	2	1	2	7	9
Logan	0	0	0	0	0	1	1
Guernsey	2	0	2	0	0	2	2
Trumbull	1	0	1	0	0	0	0
Crawford	0	0	0	0	0	1	1
Gallia	0	0	0	0	0	1	1
Scioto	0	0	0	0	0	1	1
Pike	0	0	0	0	0	2	2
Carroll	0	0	0	0	0	5	5
Columbiana	0	0	0	0	0	2	2
Ttl. Mar.	26	317	10	8	17	56	73
Ttl. Feb.	19	103	2	12	18	63	81
Difference	7	214	8	4	1	7	8

WELLS COMPLETED
LORAIN COUNTY
Eaton—Mary Mate, Ohio Fuel Gas 1-5,710 ..... gas
MEDINA COUNTY
Chatham—Thos. Brown, Curtis & Eaken 7 ..... dry
Harriett Broadsword, Curtis & Eaken 7 15
Wm. Werts, Edson Co. 26 1
Wells completed 3
Production 16
Dry 1
KNOX COUNTY
Union—Ross Hunter, H. E. Perkins & Co. 1 ..... dry
CUYAHOGA COUNTY
Strongville—Lizzie Kulos, Dillon & McFrederick 1 ..... dry
FAIRFIELD COUNTY
Berne—N. C. Hummel, City Nat. Gas Works 3 ..... gas
Albert Brannum, City Nat. Gas Works 3 ..... gas
Wells completed 2
Gas 2
COSHOCTON COUNTY
Perry—F. M. Donaker, Preston Oil 3-1,520 90
Ward Little, Murphy & Co. 2 75
Chas. M. Dawson, Hulse-Kuntz, Inc. 1 66
Wells completed 3
Production 231
RICHLAND COUNTY
Weller—D. C. Stewart, Spohn & Nachman 1 ..... dry
LICKING COUNTY
Newton—Davis P. Hall, G. F. Early & Co. 1 ..... gas
Hopewell—J. M. Iches, Wehrle Gas 2.. dry
Wells completed 2
Gas 1
Dry 1
MUSKINGUM COUNTY
Washington—Jas. E. Miller, Wittmer O. & G. 1 34
ATHENS COUNTY
Waterloo—Lafayette Hewitt, H. C. and C. O. Young 2 2
HOLMES COUNTY
Hardy—Benj. Ulrich, Mehowa O. & G. 1 30
STARK COUNTY
Jackson—Henry C. Rudy, Fulton O. & G. 5 ..... gas
Plain—John Marquardt, Plain Nat. Gas & H. Co. 1 ..... gas
Anna Gill, Ohio Fuel Gas 1-5,704 .... gas
Wells completed 3
Gas 3
BELMONT COUNTY
Warren—S. Daugherty, Ohio Fuel Gas 1-5,700 ..... dry
Union—E. B. Brown, O. K. Oil & Gas 3 dry
John T. Murphy, Bradfield & Co. 1 .. gas
Wells completed 3
Gas 1
Dry 2
GUERNSEY COUNTY
Oxford—Nathan Bat, Jewell & Co. 1 .. dry
Westland—A. Kerr, C. C. Wharton & Co. 1 ..... dry
Wells completed 2
Dry 2
TRUMBULL COUNTY
Bristol—E. E. Stover, Wittmer O. & G. 1 ..... dry

Michigan Fields

(Continued from Page 56)

330 feet from the west line of the Iosco Land Co.'s land, W half NW NW Section 16, same township, produced 14 bbls. an hour, an initial of 335 bbls. No. 2 well, 2,310 feet from the south line and 990 feet from the east line of the T. E. McCann farm, SW SE NE Section 7, same township, had initial of 200 bbls. No. 7, 1,650 feet from the south line and 990 feet from the west line of the Emma O. Reed farm, N half SW Section 11, same township, had an initial of 200 bbls. No. 4, 2,310 feet from the south line and 1,650 feet from the west line of the Edward Harris farm, NW NE SW Section 15, same township, showed an initial of 160 bbls., and the same company's well, 2,300 feet from the south line and 330 feet from the west line of the Joe Novak farm, NW NE SE Section 7, same township, produced an initial of 55 bbls.

W. L. McClanahan, Inc.'s No. 3, 990 feet from the north line and 330 feet from the east line of the Root farm, SE NE SW Section 12, Greendale Township, Midland County, is reported with an initial production of 650 bbls. No. 2, 990 feet from the south line and 330 feet from the east line of the Wilhelm-Johnson farm, NE SE SW Section 12, same township, produced an initial of 210 bbls.

Geneva Oil Co.'s No. 1, 990 feet from the south and west lines of the George C. Hanners farm, SW SE Section 15, Greendale Township, Midland County, reports an initial of 70 bbls. Columbia Oil & Gas Co.'s No. 2, 330 feet from the north and west lines of the Gilson-Fales farm, NW NE SE Section 16, same township, showed 15 bbls. initial.

L. G. Thompson's test well, in the southwest corner of the William A. Ryal farm, SW SW SW Section 3, Mount Haley Township, Midland County, hit salt water at 90 feet in the Dundee and goes as a duster.

In Clare County, Ira Scheefley, trustee, reports a dry hole 200 feet from the south line and 940 feet from the west line of the All-American Fur Farm, SE SW SE Section 23, Summerfield Township, at a total depth of 3,860 feet.

Talbot Oil Co. is drilling No. C-4 in the southeast corner of the State of Michigan land, SE SE SE Section 10,

Greendale Township, Midland County; No. 5-C, in the southwest corner of the same farm, and No. 7-C, 990 feet from the south line and 330 feet from the east line of the same farm, NE SW SW Section 11, same township.

Tuscola County

A showing of both oil and gas was found in Pure Oil Co.'s test 990 feet from the south line and 330 feet from the west line of the George Veitengruber farm, E half SE Section 27, Vassar Township, Tuscola County, at 2,650 feet, and it is reported drilling at 2,800 feet.

Oceana County

Voorhies & Woodruff's test 970 feet from the south line and 274 feet from the east line of the E. Mitchell farm, NE SE SE Section 36, Hart Township, Oceana County, showed 200 feet of oil in the hole from the Traverse formation and will be treated with acid in hopes of making it a commercial producer. This is the second well to show oil in the county, the first producer being Oscar DuVall's No. 1 on the Weirick farm, in Elbridge Township, doing from 90 to 120 bbls. a day on the pump.

Pure Oil Pipe Line Co. is making progress on the 6-inch line from the Yost lease in the southern part of Greendale Township to the Greendale tank farm to facilitate handling of the increasing production from the Porter Township Field.

C. W. Teater's No. 3, in the southwest corner of the Otway farm, SW NE SW Section 22, Porter Township, Midland County, is reported flowing from 150 to 200 bbls. a day from the first pay sand in the Dundee, equal to the production of the discovery well of the Porter Field, and is being deepened to the lower pay. Nos. 1 and 2 on the same farm are due for completion within a few days. Another well due for completion is Pure Oil Co.'s No. 1, 1,708 feet from the north line and 660 feet from the east line of the Martha Clark heirs farm, N half SE NE Section 2, Jasper Township, Midland County.

Fire of undetermined origin destroyed the derrick and drilling equipment on Livingston Oil & Gas Co.'s test, 1,530 feet from the south line and 255 feet from the west line of William F. Zebb farm, NW SW Section 34, Genoa Township, Livingston County. The well had been drilled to 4,000 feet.

J. A. Robinson is drilling in the southwest corner of the H. J. Oldham farm, in SW SW SE Section 6, Greendale Township, Midland County.

Charles W. Teater's No. 2, 330 feet from the north line and 990 feet from the east line of the Otway farm, NW NE SW Section 22, Porter Township, Midland County, is reported in the Dundee and is said to show 20 bbls. an hour, or an initial of 480 bbls., his No. 3 in the southwest corner of the same farm, SW NE SW Section 22, is reported with an initial of 250 bbls. Neither is really completed, and with a little deeper drilling may bring a larger quantity of crude.

Rocky Mountain

(Continued from Page 57)

It is bottomed just above the Muddy at 2,250 feet and was estimated at 3,000,000 feet of wet gas per day from the Wall Creek at 1,917 feet.

MONTANA

Glacier County

An important extension of the Cut Bank Field was reported in Santa Rita Oil & Gas Co.'s No. 1 Blackfeet, C SW NE Section 15-35-6w, in the Blackfeet Indian Reservation, 4 miles due north of R. C. Tarrant's No. 1 Reikhoff, SE SW NW Section 3-34-6w, and 10 miles northwest of Montana Power Co.'s No. 1 Simero, the farthest southeast producer. The new discovery opens up a large area for drilling and practically assures the building of one or more pipe lines at an early date. No. 1 Blackfeet swabbed 135 bbls. in 24 hours from a total depth of 2,903 feet. The upper sand at 2,838-65 feet was dry. After going through 6 inches of shale, it encountered a heavily saturated sandstone at 2,883.5 to 2,884 feet and oil rose 150 feet. It bottomed the sand at 2,901 feet and porosity and saturation increased all the way to the bottom.

The Texas Company had a small gas well several years ago in its No. 1 Small, 1½ miles southeast of the Santa Rita well. In between the new producer and the field proper is a block of 2,000 acres bid in by The Texas Company at an auction sale recently and which is before the Department of the Interior at Washington for confirmation.

Four locations were reported, as follows: Santa Rita Oil & Gas Co. and Sims' No. 1 Olson, NE cor. Section 26-34-6w, a mile to the northwest and the same distance southwest of the nearest producers, spudded on April 24. Dakota-Montana Oil Co.'s No. 1 Haglund, Sr., SW NW NE Section 14-34-6w, will move rig from its recent completion. Bell-Headlight Oil Co.'s No. 1 Williams, NW cor. NE Section 11-34-6w, is an east offset to Alberta-Pacific's No. 1 Kiesel. Alberta-Pacific Consolidated Oil Co.'s No. 2 Kiesel, SE cor. NW Section 11-34-6w, will be drilled.

R. C. Tarrant's No. 1 Miller, C NE NE Section 24-34-6w, cemented 10-inch at 2,242 feet and is drilling at 2,360 feet. Par Oil Co.'s No. 1 Haines, SE SE Section 2-34-6w, is cleaning out at 2,785 feet. R. C. Tarrant's No. 2 Haglund, Jr., C NW SE Section 13-34-6w, has rig completed. Santa Rita Oil & Gas Co.'s No. 1 Jacobson, C NW NW Section 23-37-5w, is running 10-inch at 1,625 feet. Hannah-Porter Co.'s No. 1 Britton, NW NE NE Section 23-34-6w, is bottomed at 1,000 feet and trying to stop leak behind the 13-inch at 575 feet. W. M. Fulton and others' No. 1 Haggerty, NE cor. Section 16-34-6w, is shut down for 10-inch at 2,100 feet. Alberta-Pacific Consolidated Oil Co.'s No. 2 Matson, SE NE SW Section 14-34-6w, is drilling at 600 feet, and its No. 1 Kiesel, NE cor. NW Section 11-34-6w, is moving in and trying to pull 10-inch to complete well following burning of rig. Total depth is 2,850 feet. It swabbed 90 to 100 bbls. per day just before the fire.

Yellowstone County

Rice, Fulton and others' No. 1 Hagerman, SE Section 20-2n-23, Devil's Hole, is drilling at 3,300 feet, between the Frontier and the Dakota.

Gallatin County

Montana Gas & Petroleum Co.'s No. 1 Adams, SE cor. Section 35-2n-1e, Three Forks district, is cleaning out at 1,736 feet.

Carbon County

Ohio Oil Co.'s No. 9 Souders, C NE SW Section 2-7s-21, Dry Creek, is drilling at 5,451 feet in the top of the Lakota with a small show of oil and gas. It had 10 feet of saturated sand in the Dakota.

UTAH

L. R. Kendrick and others, of California, are moving in rig for test to the Pennsylvanian on the Green River structure in Grand County, in Section 35-21-16. It will be an offset to a well drilled in 1926 by the Marland Oil Co., which was abandoned at 2,824 feet after testing the Hermosa. The Marland well had five shows of oil above 2,920 feet. Last was in sand at 2,861-85 feet and was accompanied by a little water. A five-foot sand at 2,401 feet had 100 feet of oil in the hole.

California Fields

(Continued from Page 53)

ticipated during the remainder of the current year due to the agreement effected by operators with respect to future development. There was no great change in the amount of development work under way in the Mount Poso Field of Kern County during the week, although there appears to be a growing tendency to deepen several producing wells in an effort to determine the possibility of picking up the second zone discovered by the Shell Oil Co. in two wells drilled on the Security and Glide leases.

Rincon

The Indian Petroleum Corp. is reaming No. 1 Shudde, a new well on tideland permit No. 82 in the Rincon Field of Ventura County, preparatory to landing and cementing a string of 8⅝-inch casing at approximately 3,350 feet. This well, bottomed at 3,484 feet, has cored about 50 feet of exceptionally well saturated oil sand and an early test is contemplated. No. 1 Shudde is located approximately 1,200 feet out beyond the end of the General Petroleum's Ferguson pier, along which are located three wells, and is of special interest because of the unique method of development. Instead of building a long costly pier, the Indian Petroleum Corp. built a steel island which is isolated from the shore, although the company has laid a flow line to two tanks located at the end of the Ferguson pier. If No. 1 Shudde is successfully completed as a commercial producer the oil will move by pipe line to the Ferguson pier, from which point it will be pumped into the pipe line of the purchasing company.

Several years ago the Standard Oil Co. acquired a lease on the Chase & Bryce property adjoining the General Petroleum Corp.'s More lease in the Capitan Field of Santa Barbara County, but active development of this 600-acre lease has been retarded due to litigation. The retarding factor has been overcome and the company is making preparations to test out the property in question some time during the next few weeks. The General Petroleum has finished three wells on the More ranch up to the present time and while no oil has been developed the area has yielded two good gas wells which can be put on production at a moment's notice in the event there is any shortage of natural gas in Southern California. All three operators, Continental Oil Co., Honolulu Consolidated and Chanslor-Canfield Midway Oil Co., made normal footage in their respective wells in the San Miguelito Field during the current week. In the Ventura Avenue Field, the Associated conducted a preliminary production test on No. 41 Lloyd, but this well, bottomed at 6,150 feet, was good for only 75 bbls. of 28.2 gravity oil and 1,150,000 feet of natural gas per day. The Shell is rotating in the pay in No. 74 Taylor at 6,625 feet and this project may be given an early production test. In the Elwood Field of Santa Barbara County, the Bankline Oil Co. has started preparations to begin drilling operations in No. 10 on tideland permit No. 89 and Caroline Spalding is making similar preparations. The pier on Caroline Spalding's permit No. 93 has just about been completed with the result that spud should be made some time during the next three weeks. Fred Cole successfully completed No. 1 Knott pumping 205 bbls. of 18.6 gravity oil per day on an open hole test between 2,067 feet and 2,157 feet. Owens & Pugh are preparing to resume drilling operations on their No. 1 at 2,139 feet in order to determine the production possibilities of the underlying Sespe.

DEATH OF F. W. CRAWFORD

The funeral of the late Frederick W. Crawford, of Columbus, Ohio, was held in that city on Monday, April 24. Mr. Crawford, one of the best known men in the natural gas industry, died suddenly of angina pectoris. He was 69 years of age.

Mr. Crawford was chairman of the board of the Ohio Fuel Oil Co.; vice president of the Columbia Gas & Electric Corp., and a director of the Columbus Gas & Fuel Co., Preston Gas Distributing Co., Tropical Oil Co. of Colombia, now merged with the International Petroleum Co., Northern Ohio Natural Gas Co., Federal Gas & Fuel Co., Edgewater Gas Co. of Toledo, Springfield Gas Co. and the Indiana Gas Distributing Co.

Mrs. Crawford and two daughters, Mrs. John H. Hislop of Columbus, Ohio, and Mrs. Ferris Hamilton of Springfield, Ohio, survive.

GEORGE A. HENSHAW DEAD

George A. Henshaw, 35 years old, died at his home in San Angelo, Tex., on Sunday, April 23, after a long illness. While returning from the Howard County Field on September 14, 1931, Mr. Henshaw suffered a broken back in an automobile accident. Deceased was a well-known oil man in the West Texas Field. He was president of the Henshaw Oil Corp., which in 1928 sold a part of its holdings for a sum reported to have been $3,000,000. He was formerly a member of the Oklahoma Corporation Commission and was active in the campaign to make Governor William H. Murray of Oklahoma the Democratic presidential candidate in 1932.

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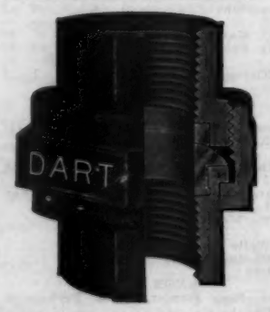

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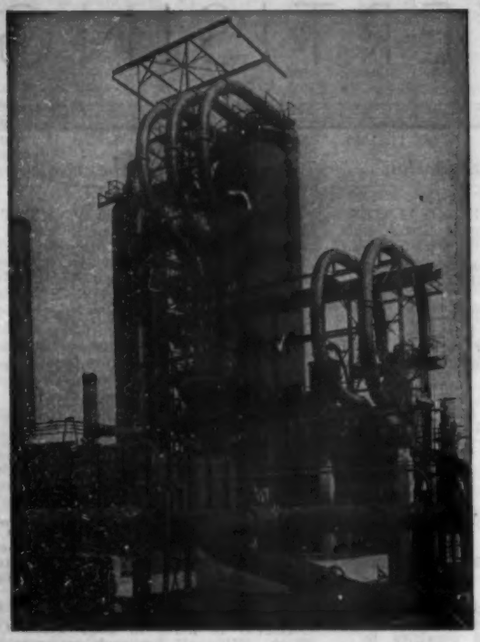

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